Master Thesis

Real Estate and Facility Management Department TU Wien

THE DEVELOPMENT OF THE SPANISH FACILITY MANAGEMENT MARKET IN COMPARISON TO OTHER EUROPEAN COUNTRIES

MEMORY

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Information Summary

Title: the development of the Spanish facility management market in comparison to other European countries

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Motivation: Master Thesis

Abstract

The present research aims to investigate the current state of the Facility Management (FM) Market in Spain and observe its evolution in recent years. This study also plans to analyse the state of the art of the sector, and determine the added value of FM and the parameters influencing the magnitude. These objectives will be achieved by applying scientific models and methods.

The study is included in a large-scale project carried out by the Technical University of Vienna (TU Wien). The university has managed FM demand-side studies on a yearly basis in different European countries such as Austria, Germany, Switzerland, Spain, Bulgaria, Romania or Turkey. The study deals with the data analysis extracted from a survey about the FM Market made to the Top 500 companies in Spain (in sales driven ranking).

Keywords: Facility management, Spain, Mixed Methods Approach, Added value, Outsourcing, New ways of working.

Contents

1 Introduction

1.1 Project Background

This project is included in a series of studies carried out by the Department of Real Estate and Facility Management of the Technical University of Vienna (TU Wien) which are done on a yearly basis since 2005 in different European countries. In them, the demand side of Facility Management (FM) is analysed in each specific country and are compared the outcomes with the others and with its own time evolution.

The final purpose of these studies is to observe on a general basis the temporal evolution of the Facilities sector throughout Europe and its geographic differences according to the studied areas, in order to determine the added value of the FM services and the parameters that influence them using methods and models of scientific analysis.

This particular project aims to study the FM market in Spain this current year, 2019, relying on previous studies and trying to enlarge the database available.

1.2 Facility Managment Contextualitzation

According with the European Standard, a proper definition for the facility management concept is the “integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities“. [1]

The role of the Facility Manager within a company is one of the great unknowns for a large part of the industrial and business world. Even so, according to the calculations of IFMA, this activity can represent up to 30% of the expenses of a company, making clear the importance of such a figure and its proper functioning in the company. [2]

The International Organization for Standardization defines Facility Management as the “organizational function which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of the core business.” [3]

Thus, departments such as Facility Management, IT or Human Resources share the responsibility of achieving optimum performance between people, technology and workplace, in all types of facilities (hospitals, hotels, tourist attractions, etc.)

The roles that the Facility Manager should take responsibility within a company intervene in a wide range of areas such as health and safety, risk, business continuity, procurement, sustainability, space planning, energy, property and asset management. They typically oversee activities like catering, cleaning, building maintenance, environmental services, security and reception. [4]

According to the European Standard EN15221-1, *"an effective facility management will: foster integration of the different service processes; streamline the link between the strategic, tactical and operational levels; ensure consistent communication (bottom up and top down); develop and cultivate the relationship and partnership between clients/end users and suppliers/service providers and support the connection between historical facts, current tasks and future requirements"* (EN15221-1: 2006 Facility Management – Part 1: Terms and definitions). [1]

1.3 Status Quo

The Facility Management sector can be considered as an atypical sector in this times of economic crises because they are usually understood as an opportunity to achieve savings in the non-core structures of the company. During the last years of recession, and due to the large scale of this, IFMA calculated in 2016 that the turnover of the FM sector exceeded 70.000 million euros in Spain, which indicated an important growth in the business. [5]

Three years later, and once the main effects of the severe economic crisis have been overcome, the activity of the FM maintains an upward situation and with very positive perceptions. Thanks to globalization and a new approach of companies towards three basic pillars: innovation, user experience and sustainability, and the figure of the Facility Manager within companies becomes much more visible and proactive, working for continuous improvement in these three aspects. [6]

One of the reasons for the growth of the sector has been, besides the increase in confidence that large and medium-sized companies have shown about the relevance of the FM, the emergence of the interest of public entities that also want to take

advantage of the benefits of efficient management of their facilities. The recent rise of the concept of smart cities has meant an important boost to the facilities sector, thus increasing its market and its possibilities.

1.4 Objectives and Scope

The main objective of this project is to analyse the current Facility Management Market existing in Spain nowadays. This analysis aims to help to determine the added value of FM and what factors influence it.

This project, encompassed in the framework of the other studies carried out in TU Wien, expects to continue the 2014 and 2016 studies that were performed in Spain to draw more reliable conclusions about the Facility Management market in this country.

Thus, this project continues the steps of the other two studies mentioned above carried out at the Vienna University of Technology (Facility Management Market in Spain - TU Wien, 2014 and Facility Management Market in Spain and Analysis of the Time Series - TU Wien, 2016) and pursues similar goals. The following research objectives have been established at the beginning of the research as a guide to try to find the answers during the study:

- What do enterprises in Spain want to accomplish with the use of FM?
- In which fields are the biggest savings through the use of FM in Spain?
- How important is outsourcing for companies in Spain and which are the most outsourced services?
- How has the Facility Management market evolved in Spain over the last years?
- How different is the FM demand side in Spain from other European Countries?
- How has affected the appearance of new ways of working the FM market?

1.5 Structure of the Thesis

This thesis is divided into 5 chapters ordered in an understandable way. They pretend to be a clear guide towards the resolution of the initial objectives. The project is organized as follows:

- Chapter One: Introduction. In this chapter, it is shown the background and the framework of the project. A small contextualization is given on the main theme, the objectives and the scope of the project are marked, and the format of the thesis is structured.
- Chapter Two. Methodology. In the second chapter, it is described what kind of scientific methodology the study will follow to achieve the determined objectives.
- Chapter Three. Literature. It is a look at the state of the art of the FM market both globally and Spanish. The basic concepts of Facility Management business are analysed and summarized and will be used as a support to understand the data extracted from the surveys.
- Chapter Four. Analysis. It shows the results obtained from the study and they are analysed exhaustively, comparing them with the whole database acquired in previous studies. Results are presented comparing them by countries and the evolution within the Spanish market.
- Chapter Five. Conclusions. The last chapter presents the conclusions drawn from the analysis of results based on all the literature studied previously. It checks if the initial objectives have been reached.

2 Methodology

2.1 Literature review

The first step when carrying out a thesis is to make an extensive search of the current literature of the main topic of the work. A first reading of the basic literature has helped to generate the research ideas the project will approach. After that, a critical and in-depth review of more specialized literature has helped to know the state of art of the topic and to identify the existing knowledge gaps in it, and then recognize the focus of interest that the project can have.

The purpose of a literature review is not to provide a summary of everything that has been written about a research topic, but to review the most relevant and significant research of it.

In this project, the literature will be used to help to identify theories and ideas that, later on, will be tested using data. This way of analysing the literature is known as deductive approach.

Finally, the literature's review of the research topic will be used to many other things as to help to refine further research questions and objectives of this thesis, to highlight research possibilities that have been overlooked implicitly in research to date or to avoid simply repeating work that has been done already.

The most part of literature resources that will be used in this thesis are considered as a primary (reports, theses or goverment publications) or secondary (books, journals) level sources. Primary data is defined as collected by a researcher from first-hand sources. In contrast, secondary data is gathered from studies, surveys or experiments that have been run by other researchers for other purposes. [7]

2.2 Methods of data collection

There are two main methods of data collection in the common literature: Quantitative Research Method or Qualitative Research Method. Quantitative methods are understood as those techniques (such as a questionnaire) or data analysis procedures (such as graphs or statistics) that generate numerical data. Meanwhile, qualitative methods are a synonym for data collection techniques (such as an interview) or analysis procedures (such as categorising data) that generate or use non-numeric

data. However, when choosing between both, quantitative and qualitative methods have particular lacks of strength so it has been considered convenient to use Mixed Research or Approach. [7] [8]

Mixed Methods is the general term for when both quantitative and qualitative data collection techniques and analysis procedures are used in a research design.

Within this type of methods are two procedures that should be differentiated to choose the one that will be applied. In the first place, Mixed Method Research uses both quantitative and qualitative techniques to collect and analyse data both in a parallel or sequential manner but without combining them. In contrast, mixed-model research can combine data collection techniques both, quantitative and qualitative in the same phase of research. This fact implies turn into qualitative the quantitative data and vice versa. That means, for example, transforming qualitative data into numerical codes to be able to analyse it statistically. [7]

In the thesis, these two Mixed Methods are carried out. Qualitative methods are used in the research and analysis of literature while in other phases (such as the questionnaire) are used quantitative methods and statistical analysis (applying Mixed Method Research). On the other hand, the questionnaire included summated rating scales and open-ended questions for qualitative data collection.

2.2.1 Secondary data

Secondary data can be defined as the one that has been collected and treated previously for another purpose and is re-analysed for a new project. For national or international comparisons projects like this, secondary data is usually a good source of documentation. [7]

In this case, in addition to all the literature treated, it was used all the studies on FM demand that have been done previously in different countries by the TU Wien as a basis for comparison for the results extracted from primary data.

2.2.2 Primary Data

In this thesis, primary data has been collected using the questionnaire technique, as it has been done in the previous studies mentioned above. A questionnaire or survey is a simple and cheap way to collect fairly accurate data from a large population from a

sample of it. In addition, the data collected using a survey strategy can be used to suggest possible reasons for particular relationships between variables and to produce models of these relationships. In this case, the survey has been standardized to make comparisons possible with the past studies cited above. [7]

The survey consists of 29 questions with opened and closed answer questions. It has been carefully translated into Spanish to facilitate the understanding of the respondents, making sure that the meaning of any question is not altered in order to compare the results with previous studies. The questionnaire was subdivided in the main areas of the study: [8]

- FM organization: questions about the availability of a FM department, number of employees and the position in the hierarchy of the company etc.
- Value added: cost drivers and savings through the introduction of FM and the increase of productivity through the use of FM.
- The way of service provision: number of external service providers, fields that are outsourced etc.
- IT support: questions about the use of IT systems as Enterprise Resource Planning (ERP) or Computer-Aided Facility Management (CAFM) systems and processes that are covered with it.
- Industry 4.0: there's a new part in the survey with questions about the new ways of working in the companies.

When making a survey, it is important to set the size of the sample needed given the confidence level and the margin of error that is wanted to apply in the study.

The confidence level indicates the probability, with which the estimation of the location of a statistical parameter, like an arithmetic mean, in a sample survey is also true for the population. The margin of error is the maximum deviation of the sample results from the real values. So, for example, if a level of confidence of 95% and a margin of error of 2% were marked, and in a certain question 75% of answers were affirmative, there would be a 95% chance that the total of affirmative answers in the whole population was in a range between 73-77%. [9]

The size of the sample for the study should not fall below the representative size determined from statistical estimation theory, which is based on the confidence level

and the margin of error that the researcher wishes to employ [10]. To calculate it, the following formula is given: [9]

$$n = \frac{N \cdot Z_\alpha \cdot \beta \cdot (\beta - 1)}{e^2 \cdot (N - 1) + Z_\alpha^2 \cdot \beta \cdot (\beta - 1)}$$

Where:

- n= sample size
- N= population size. In this case, 500.
- Z= statistic parameter related with the degree of confidence obtained by tables. If Desired Confidence Level (DC) is 80%, Z is 1,28
- e= margin of error. In this case is 12%
- β= the probability that the event studied will happen. In the cases it is not known, the value gets 0,5

In this case, the formula yields 27. It is clear that the number of surveys required is small due to the high margin of error and the low level of confidence with which it has been calculated. It has been decided to carry out the survey with this sample size because thanks to the experience in this type of studies carried out in TU Wien since 2005 it has been verified that the results are acceptable.

The selecting sample technic chosen was the simple random sampling, which is a procedure of giving every subject in a population an equal chance of appearing in the selection. Companies of the Top 500 in Spain (ranking is sales driven) have been chosed in a random way until completing the required sample size using a random number generator. [7]

The interviewees were the internal Facility Managers of the company or the people responsible for all the FM tasks defined by the European Norm EN 15221-1. They have been contacted via phone or E-mail. The surveys have been sent by e-mail and answered in writing. All types of contact with the interviewees have been carried out by the same researcher, to avoid interference in the answers. This was done to secure the data quality. As mentioned before the questionnaire included also questions with open answering possibilities. That means that answers need to be reviewed, if necessary, renamed and afterwards clustered to make comparable findings. [8]

2.3 Processing and Analysing Data

After the critical study of the literature (secondary data) and the collection of data from the surveys (primary data), the next step is processing all the information extracted from the surveys in order to analyse it. All the answered questionnaires have been entered to an MS Excel template to gather all the information and facilitate the analysis.

This analysis is supported by all the previous literature and secondary data from past studies. The outcomes are shown with graphs or charts. In the survey, most of the collected data is either descriptive data or numerical discrete data. In the case of descriptive data, only the number of occurrences (frequency) in each category of a variable must be counted. Descriptive statistics technics are used to describe and compare variables numerically. This type of statistics allows describing central tendencies, representing the value that occurs most frequently or the middle value (mode, median, mean, e.g.) Therefore, all questions and possible answers must be unambiguous and discrete to avoid misunderstandings. In contrast, numerical data is more precise than categorical and that also means that it is easier to analyse using a far wider range of statistics. [7]

As a summary of this chapter, the next picture shows the entire methodology process followed in this thesis (See Fig. 1)

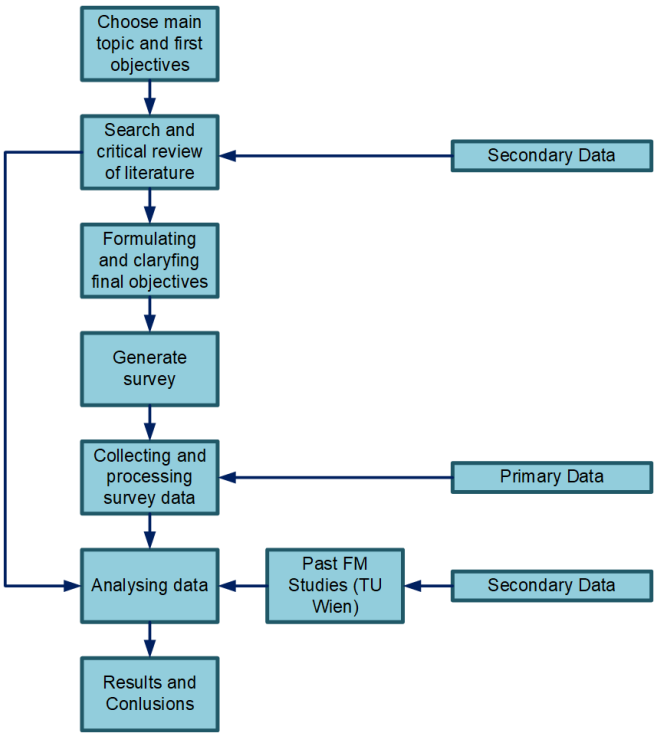

Fig. 1: Steps followed in the research

3 Literature Review

3.1 Facility Management in Spanish Market

3.1.1 Global FM Situation

In 2017, the total global FM market was estimated to be worth $1,15 trillion, which means a 7,4% sector growth since 2016. That year, it was corroborated that 64,8% of the value of the FM was in private companies and the other 35,2% in the public sector. A common trend in FM is outsourcing. According to GlobalFM Market Report 2018, about 50.5% of the value of the FM Market comes from the companies outsourcing, while only 11.5% is treated by an Integrated Facility Management (IFM) company.

As has been repeated on previous occasions, the Facility Management sector lives in constant worldwide growth and professionalization. It can be checked in the attached graph (See Fig. 2: Comparison of Global FM Markets in 2015 and 2017). However, it is easy to see that the percentages of outsourcing and IFM remain constant during the last years and it seems difficult to change the market tend [11]

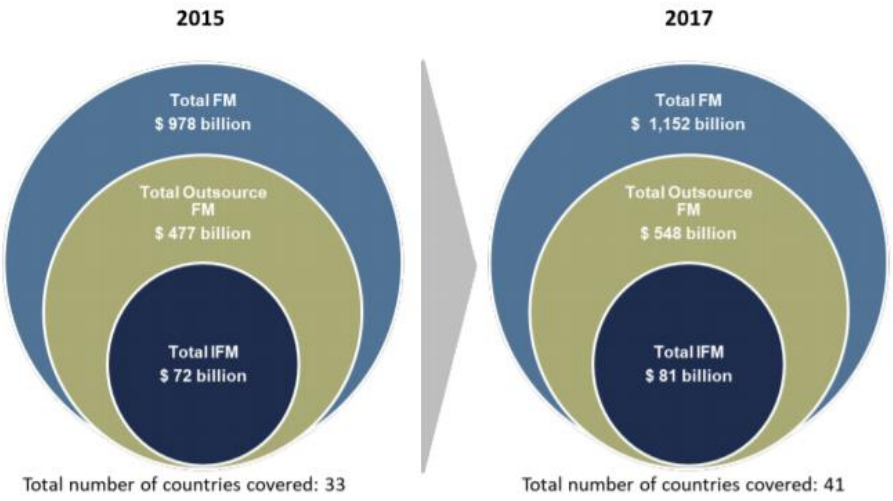

Fig. 2: Comparison of Global FM Markets in 2015 and 2017 (Frost & Sullivan Analysis, 2017)

The most mature markets for FM, North America and Europe, find key factors of growth such as demand for service integration and the inclusion of value-add service, while in developing markets (Asia-Pacific) growth is still mainly linked to the demand of large multinational corporations.

It is expected that the growth of the sector will continue in the coming years. It foresees global market revenue by 2025 of $ 945.11 billion. In addition, it forecasts an IFM growth of 6.3% over the next few years (2017-2025). [12]

3.1.2 Spanish FM Market in Europe Context

The European FM market size in 2017 has reached the $272.7 billion (approximately 24% of the world market). The growth that is affecting the sector during recent years continues without modifying the demanding style in the European panorama and the contracted IFM services are reduced to only 7% of the amount (See Fig. 3: Comparasion of FM Market Size in Europe (2015-2017) [12]

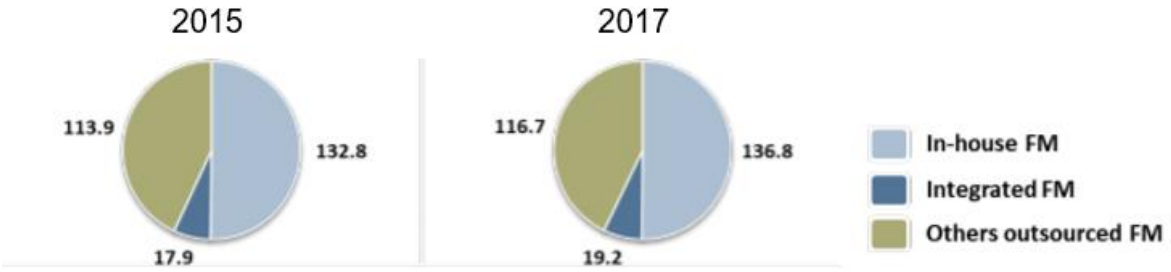

Fig. 3: Comparasion of FM Market Size in Europe (2015-2017)

Europe is, nowadays, an attractive region for FM providers with added-value and innovate solutions in some important areas such as data analytics, energy management or workplace management. However, it is still far long from the North American market, more mature and dominated by property and technical FM firms with strong know-how.

UK and Germany are the most advanced markets in the whole Europe and are a main reference for the market of the other countries of the continent. Nevertheless, due to the maturity of it, revenue growth is slowing down with new opportunities becoming more limited. The demand begins to focus on new and more specialized services such as IT, energy and environmental management to create added value. In this aspect, the Spanish market differs from the current one in UK. [12] (This report does not include countries as Austria or Switzerland)

To understand the Spanish position within the European context market, it is essential to know that the sector has been less evolved than in countries such as Denmark, the Netherlands or the UK, for example. The reason is given by the fact that large FM corporations as Interserve or ISS are based in these countries and they were pioneers

in the provision of integrated services and in developing models of public-private collaboration in the sector.

In addition, other countries with more liberalized and prepared markets such as Germany, France or Ireland gather more appropriate characteristics for better development of the integrated services and greater added value applying the use of technology and management by indicators (KPIs). Also, these countries are headquarters of companies in the sector such as Spie, Vinci, Dalkia, CWSBoco, Wisag, Apleona-Bilfinger or Noonan. [13]

In the Spanish market, even if it is true there has been a development in the field of the supply with indicators systems and innovate energy management models or specialized formation, the sector is still extremely fragmented and dominated, in terms of volume, by small non-professionalized companies. According to the demand, all that concepts and the main ideas of facilities sustainability does not have yet the desirable reception because of the price factor, especially in the case of Public Administrations. A behaviour, that totally differs in countries, like the UK and other pioneer countries in the market, where the public sector's contribution to the IFM solutions is significantly higher. This is due to the fact that in Spain that kind of service contracts still has a short duration and prevents the creation of a link between supplier and contractor to develop greater efficiency.

Factors such as price as the main selection agent and the lack of flexibility in the labour market which don't allow the mobility of employees among different divisions of services (security, cleaning, catering...) have resulted in excessive concern about reducing the cost in the short range over the search for greater efficiency in the long term. Thus, this factor is one of the main differences between companies. [13]

3.1.3 Trends in the Sector

The Spanish market is not far behind in the study and application of the new trends that emerge in the FM sector. Nowadays, some trends that can be recognized in the market are:

- The application of technological resources such as Building Information Modelling (BIM) in the construction and design buildings phases and the management of services with Computer Aided Facilities Management (CAFM) software.

- The use of automation and robotization in some services where these does not affect efficiency (currently there are not many cases).
- The growing improvement of workplace design and management to enhance employee comfort and thus improve the productivity and efficiency of the company.
- The use of large databases analysis applied in the management of services and infrastructures. [13]

In other aspects, in the European market new methods have appeared to offer the client all types of integrated services. For example, many real estate management companies, through the subcontracting of small operators, begin to offer a wide range of services for the buildings. These unions have not only been based on subcontracting, but there have also been cases of acquisitions of service companies by real estate ones (in the UK, for example, CBRE has acquired Johnson Controls and Norland Managed Services while JLL has bought Integral). All these market trends, as well as the internationalization of outsourcing in the real estate management, are due to go in search of the integral and standardized offer demanded by the large multinationals. [13]

In the Spanish market, however, this trend towards the union between service offer companies to satisfy an integral demand is not so evident. In the area of M&A (Mergers & Acquisitions), Spain experienced an intense wave of operations in the prior years to the economic crisis (1999-2007), but the trend of the following years was of divestments and sale of divisions and parts of the business. Despite this, a new resurgence of these M&A movements in the Iberian market in the coming years is not ruled out due to the specialization of the services market and the existing integral demand.

In order to find the cause of the Spanish market backwardness with respect to the great European and world potencies, one must inquire into the root of the problem. The two most important causes are the lack of specialized professional careers strictly in FM and the absence of obligated legislation. In the first case, in other countries such as the USA or north and central European ones, there are University degrees, postgraduates and masters specialized in Facility Management environments, while in Spain there is no formal formation with an academic model recognized by the

administration (University degree title). Currently, the most appropriate careers to meet the profile of Facility Manager are technical or higher engineering or architecture.

In the legislation area, in recent years there have been relevant advances with the translation into Spanish of a series of standards at European level that is included in UNE-EN 15221 (Standard that legislates the Facility Management sector in Europe). This regulation is not mandatory, only guides but do not regulate the competencies or the profession of the FM. That means that there are still steps to be taken in this area. Only laws such as Law 38/1999, on Building Regulation, (LOE), and which is not adapted to the real role of a Facility Manager, can legislate the FM profession. In other countries where the FM is established, there are specific and more extensive regulations. [14]

These two factors are in which the Spanish market should work the most so that, in a few years, the environment of the Facility Managers will be much simpler (more specialized personnel and a covered by a specific law) and it will be able to reach the level of the pioneers countries in the sector.

3.2 Added Value in FM

3.2.1 Concept of Added Value in FM market

It is a reality that the activities of the FM department have an important weight in the expenses of the company. Previously it was mentioned in this thesis that the volume of the Spanish FM Market is around 70.000 million euros (although it should be noted that approximately half comes from energy management). [13] [15]

In many occasions this fact makes the chairmen see this type of services as a set of General Expenses that must be managed in an optimal way. In recent years, however, the FM *"is evolving from a cost reduction approach towards a strategically more robust approach that actively supports the core of the organization".* [15]

The definition of the concept of added value tends to opt for a clear financial vision. However, the meaning of the Added Value concept must be adapted to each organization and market (in this case in the FM sector), using terms that are measurable and clearly show the value that is provided. Following this idea, in a study

carried out among the IFMA partners in 2017, most of them defined the concept of Added Value in the FM Market as a multidimensional concept with a strategic focus.

To understand the difference between the added value and a cost reduction, the following figure is attached (See Fig. 4). It shows the development relative to the time of cost and value of service compared to the Service Level Agreement (SLA). The value of a service can be measured with a Key Performance Indicator (KPI) such as the level of customer satisfaction. A cost reduction does not occur if the value level decreases at the same time as the cost, it will only exist when the cost decrease, but the customer's satisfaction is maintained. On the other hand, an increase in the value of the service is not due to a reduction in cost. The increase in value over the SLA is the value added to the service. [16]

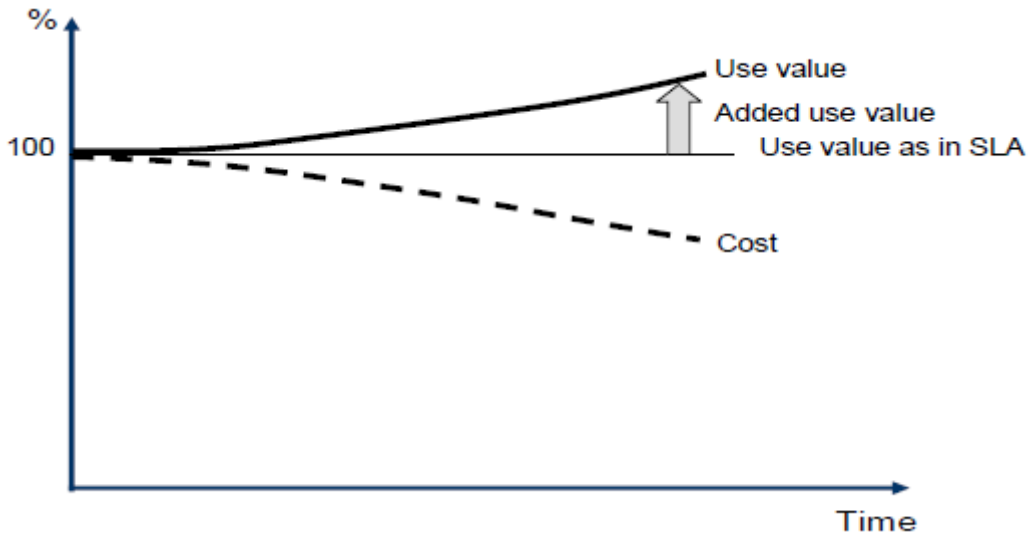

Fig. 4: Added use value and cost reductions

Due to all these circumstances, IFMA defines the Added Value in Facility Management as *"the contribution to improving the performance of the organization regarding people, processes, economy and the surroundings".* [15]

3.2.2 Dimensions and Parameters of Added Value in FM

If the last definition of Added Value is revised, it is easy to realise that there are four dimensions in which to improve the performance clearly differentiated: people, processes, economy and surroundings. In each dimension described, it is possible to identify different parameters that can be used to create added value. According to the

Research Working Group of EuroFM, it is possible to differentiate 12 parameters to improve the performance and create added value: [16] [15]

- People:
    - Satisfaction: related to customers, end users and owners.
    - Image: related to the perception of brand identity inside the market (customers, clients).
    - Culture: related to the organizational identity oriented to employees.
    - Security & Health: related to all the activities carried out in the organization's space.
- Processes:
    - Productivity: it relates to the outcomes and the incomes in the company processes.
    - Flexibility: defines the capacity to adapt to changes and the response time.
    - Innovation: related to inter-department interaction within the company and the creativity.
    - Risks: defines the financial and asset security of the company.
- Economy:
    - Costs: related to the total cost of ownership, CAPEX, OPEX, traceability, transparency, forecast, etc.
    - Assets value: defines the live cycles of the assets in the company.
- Surroundings:
    - Sustainability: all the aspects that relate the operation of the company with the environment as the consumption of resources or emissions.
    - Corporate Social Responsibility (CSR): related to the active and voluntary contribution to social and environmental common wellness.

Working on these dimensions is an effective way to generate added value for the company.

In the survey conducted by IFMA Spain, and commented above, it has also obtained data about which of these 12 factors are considered the most critical in the FM market. (See Fig. 5)

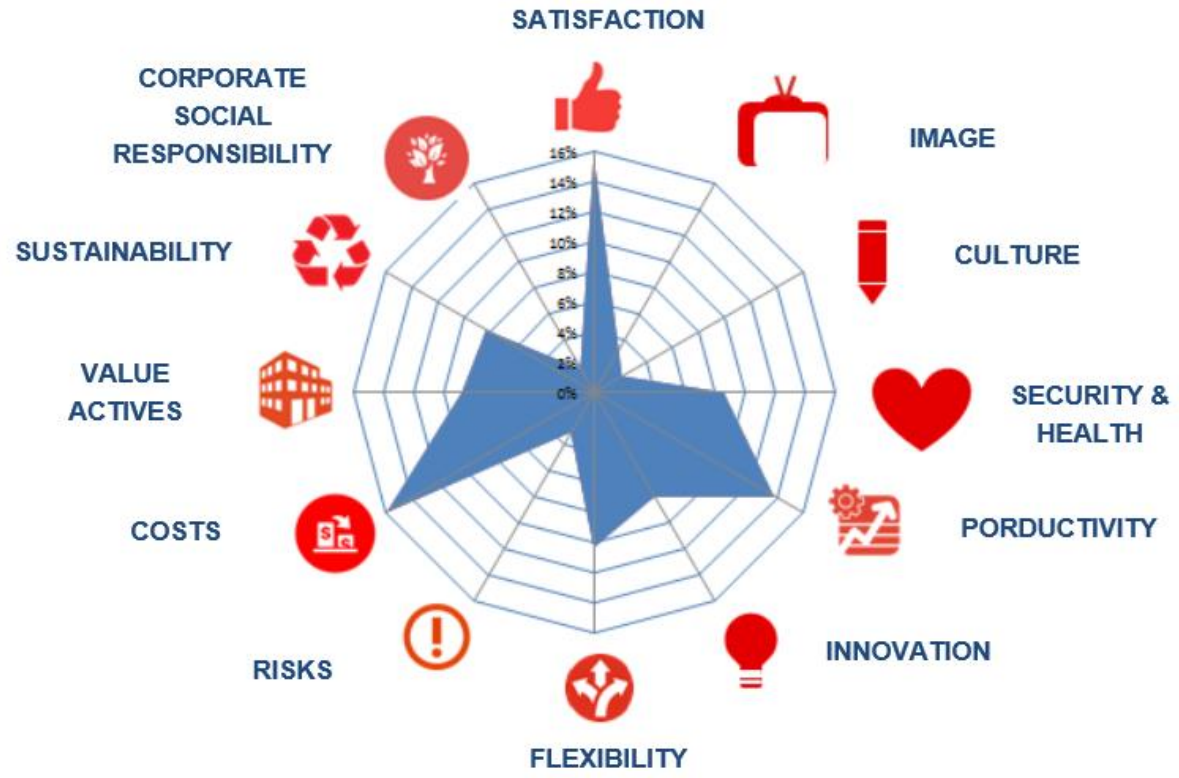

Fig. 5: valuation of the parameters on the added value in FM [15]

Nowadays, the three parameters with the best assessment by the Facility Managers surveyed are Satisfaction, Costs and Productivity. Even so, the 12 are totally licit and usable according to the objectives and the culture of the company. [15]

3.2.3 Added Value in actual FM Market

The understanding of the weight of added value concept in FM altogether with others ones explained in this section is gradually arriving at the current market in Spain. Ideas such as the strategic and non-economic or financial nature of the added value, its multi-dimensionality and subjectivity (depends on the customer's / client's perception) are taking root in more and more departments of Facility Management.

New trends focused in the improvement of added value not only are applied in research but also in practical reality. Outsourcing and cost reduction has been and is still an important trend within FM, but this fact is changing in the most advanced countries in the FM market. Despite this, Spain is a step behind the industry's vanguard, even so the application of KPIs related to the added value to control and manage decisions is becoming an increasingly implemented practice. The road marked by countries such as the UK or Germany will be followed by Spain in the coming years. [16]

3.3 Key Performance Indicators in FM

In a multidisciplinary sector such as Facility Management, it is extremely important to be able to control the performance of all your operations in every moment. Also, meanwhile FM evolves, it's becoming more important than ever for facilities managers to prove their worth [17]. As H. James Harrington announced in 1999, *"measurement is the first step that leads to control and eventually to improvement"* [18]. Thus, the importance of the ability to measure the performance is evident not only because of the control it grants but also because it demonstrates the value of the task.

The most accepted and used way in the current market to measure and control performances in companies is using KPIs. According to the European Norm EN 15221-1, a KPI is a measure that provides essential information about the performance of facility services delivery. They are usually used to measure the evolution of performance over time. They must be the responsibility of the demand side. As discussed above, KPIs can be used to monitor outcomes against the SLAs and to quantify the added value that is being created or not.

KPIs helps to assess the gap between the current state and the desired state of FM functions and to identify performance strengths and weakness. Many KPIs are lagging indicators, offering information that can be valuable for planning. It is essential that after monitoring and controlling the performance, the manager has to be prepared to act according to KPI's values and pre-set actions to achieve the desired objectives. [17]

When selecting which KPIs to monitor, it is crucial to understand that it is neither beneficial nor practical to attempt listing or control exhaustively al KPIs in FM, due to the multidisciplinary reality of the sector. Rather, it is more effective to select and focus on a small number of KPIs, usually the most frequent in the sector or a specific one that may be interesting to follow in some discordant cases. In this way, KPI Institute, EuroFM and IFMA reported the most useful and frequently monitored KPIs, according to their studies, in the FM market nowadays. The next list shows 10 of them: [19]

1. € Gross FM Costs (TCO) / 1 m² (ft²) of Gross Floor Area (GFA), annually
2. % Degree of User Satisfaction from FM Services
3. € Cleaning Costs / 1 m² of GFA
4. # End User Complaints

5. # Net Floor Area in m² / 1 working place or per 1 user
6. € Maintenance Costs / 1 m² of GFA
7. € Operational Costs / 1 m² of GFA or per 1 user
8. % Planned maintenance vs. Reactive maintenance Ratio
9. € Utility Consumption Costs / 1 m² of GFA or per 1 user
10. % Utilization rate of Working Places

Thus, the fundamental aspect is knowing how to select precisely which KPIs bring the necessary information about the real performance of the department. To be successful in this selection, they must be chosen according to the following criteria: [19]

- Clear and specific
- Measurable
- Achievable
- Relevant
- Time phased
- Balanced

3.4 Outsourcing trends in FM

In all the literature reviewed on FM, the significance of outsourcing within the sector is highlighted. Because FM joins a large number of activities of diverse nature, going to external suppliers to carry out part of them has always been a highly used solution. The multidisciplinary reality of the sector, therefore, makes outsourcing a key management factor in order to improve results.

It is of great interest to study how the different possibilities of outsourcing affect the FM market nowadays. This practice has already been fully incorporated in some areas of medium and large enterprises. The data presented below is extracted from a survey carried out by KPMG named "KPMG 2018 Global Outsourcing REFM Pulse Survey". It is about the main trends in the real estate and facilities management (REFM) outsourcing market gleaned from buyer organizations undertaking REFM outsourcing and the leading global REFM outsourcing service providers and advisors (referred them as SPAs).

The global trend that this study leads to is what was noted earlier in this literature review: the larger and more mature companies seek to bundle all FM services at the minimum possible suppliers and operate under an integrated model to further reduce costs and improve controls, service level agreements (SLAs) and performance reports. In contrast, small size companies or the ones in emerging markets are more likely to self-perform FM tasks and services and manage them internally.

A first analysis shows the study consulted is the ranking of the most demanded industries of REFM (Real Estate and Facility Management) Services. The banking, financial services and insurance (BFSI) industry group is the most relevant market for FM, cited by 54 per cent of SPAs (see Fig. 6). After that, Healthcare and Pharma / Biotech follow. These three groups are the industrial sectors with the biggest FM demand at the present time, following a trend already observed in previous studies ("KPMG 2014 Global Outsourcing REFM Pulse Survey"). Its leadership in this ranking is due to the usually high number of properties/portfolio mix managed by these firms. It is worth mentioning the increase of High-tech products/svcs regarding the latest studies. [20]

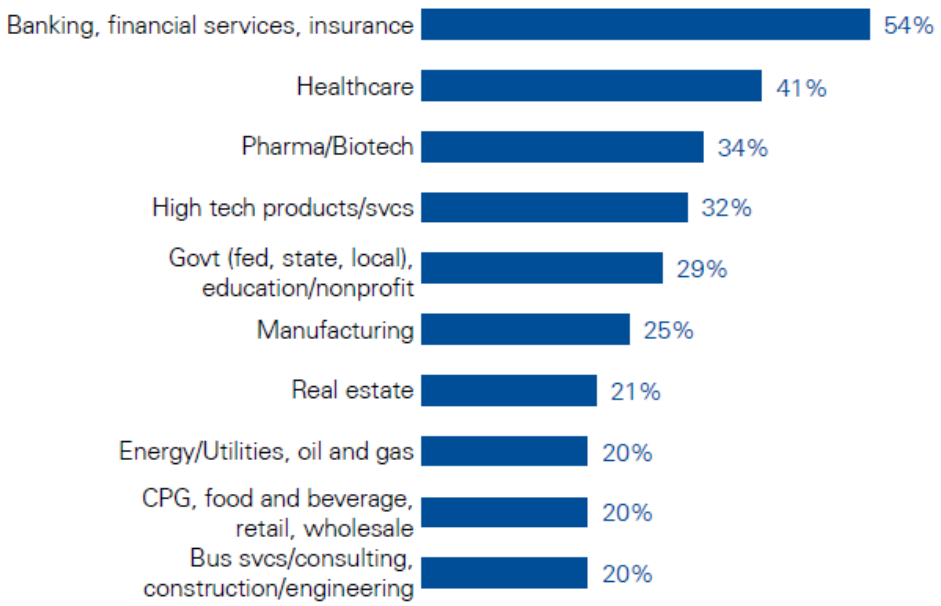

Fig. 6: SPAs: Top ten industry demands for REFM Services in 2018 [20]

Analysing which FM activities are currently subcontracted or are planned to be in the future, it is observed that there is no change in trend regarding the previous annual studies (See Fig. 7). It is noteworthy the decrease of more than 15% in services such as Food Service or Security, which contrasts with the idea that outsourcing is an

upward trend in all FM services. If these results are compared with those of the TU Wien database, shown below, it can be observed the main activities of the FM maintain similar levels in both studies. Fields as janitorial, waste management, food services, security or maintenance have a relatively similar weight according to both surveys.

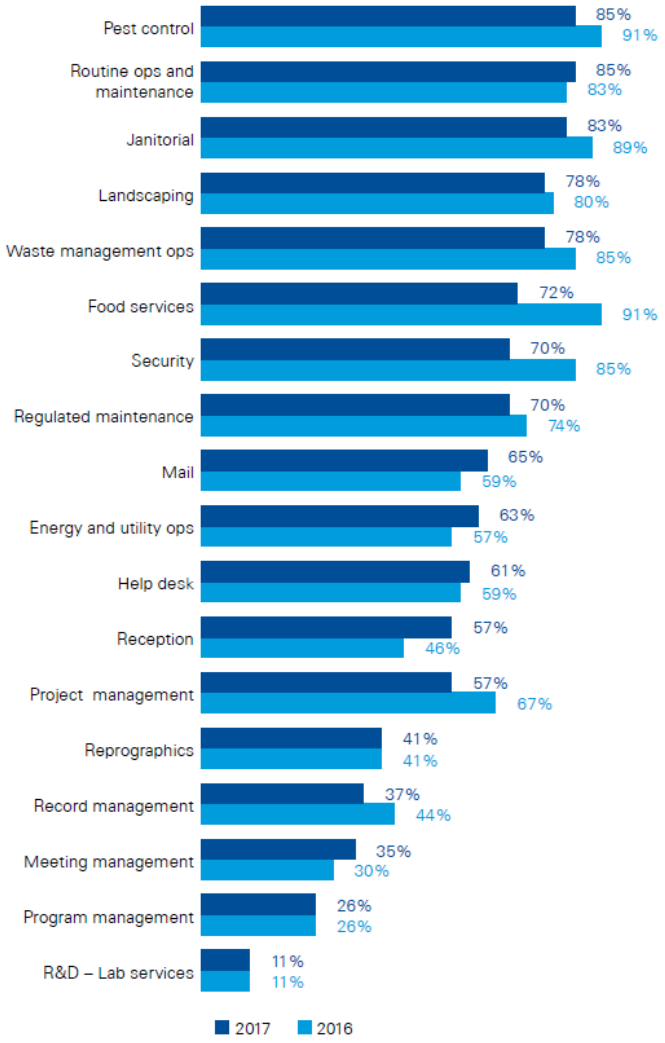

Fig. 7: Buyers: Facilities Management Current/Planned Use of Outsourcing by Process [20]

KPMG also polled both buyers and SPAs on what they see as the top drivers for REFM outsourcing in the market today (See Fig. 8). As expected, *reduce operating costs* is the main choice on both sides and there is still a big gap between this and the following selected factors. This trend is maintained over time during lasts years and is consistent in all the markets present in the study, with a greater impact on the American market.

In contrast, the following most frequently chosen drivers are based on creating added value and improving the performance of the company, such as *improve global delivery and operating models* and *improve process performance*, although SPAs rate these

factors worse and reward other economic drivers as economies of scale. If the results are analysed exhaustively, it is found that reducing cost is paramount but rarely the sole driver for Global Business Services (GBS) efforts, which corroborates the idea that among the more mature organizations, there is an increased tangible interest in determining how best to use FM department efforts to bring more value to the business and to improve strategic business initiatives.

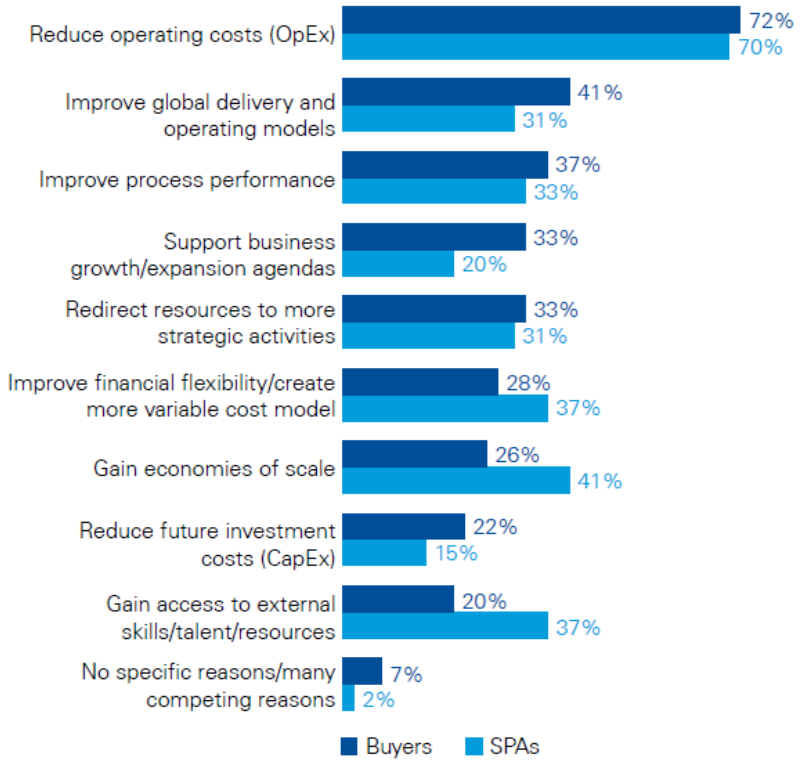

Fig. 8: Top Drivers for REFM Service Delivery Improvement Efforts [20]

One of the most interesting statistics that helps to understand the process of subcontracting in the FM departments are the reasons for not undertaking REFM outsourcing (See Fig. 9). In these statistics is separated the Buyers and SPAs data because of the less visibility the SPA side has about the decisions the demand takes.

The most repeated reasons for the demand side are that there is *no compelling business case to change* and that *activities are too strategic in nature* followed by *costs would be higher*. However, this vision against subcontracting is decreasing year after year, making clear the growth of the market's intention to outsource.

Fig. 9: Reasons for not undertaking REFM Outsourcing

Last relevant data the study deals with is the contract length between the demand side and the offer side (See Fig. 10). This fact can be a key aspect in the relation between the parts and the implication of them in the deal. Deal lengths tend to be shorter in the REFM space compared to other functional areas of outsourcing. Short-term agreements are often attractive because of the flexibility they provide, but frequent renewals and negotiations create an additional amount of work that is detrimental to both sides. In addition, the involvement of both sides is usually greater and generate added value in both directions when the duration of the contract is longer (3-5 years) and exists more implication. In contrast, short-term deals can be beneficial for commoditized services in which cost saving is the most important factor.

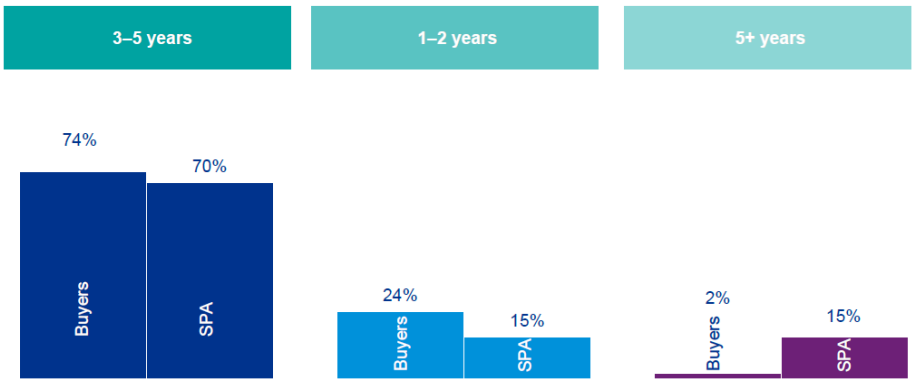

Fig. 10: Outsourcing deal tenure

The chart shows the expected parallelism between the outcomes of buyers and SPAs and the will of the two sides to create more contracts. This is because it is provided a better continuity and capacity and maximize savings and operational efficiencies.

3.5 Status of the Main Areas of FM in Spain

In this section, the most relevant providers market areas of the FM sector in Spain are studied and analysed. From the data extracted from several annual IFMA Spain studies on such sectors, the current status of these is presented based on the most current data collected (2016, 2017 or 2018 depending to the area).

3.5.1 Cleaning

The cleaning area is the one with the highest turnover in FM in Spain. Once the crisis was over in 2012, the sector experienced significant growth and since then it has maintained results close to 9.200 M€ in turnover, but in the last two years the trend has suffered another increase which reached the highest historical turnover in the sector (10.318 M€ in 2018) (See Fig. 11) due to a 3.4% increase compared to 2017.

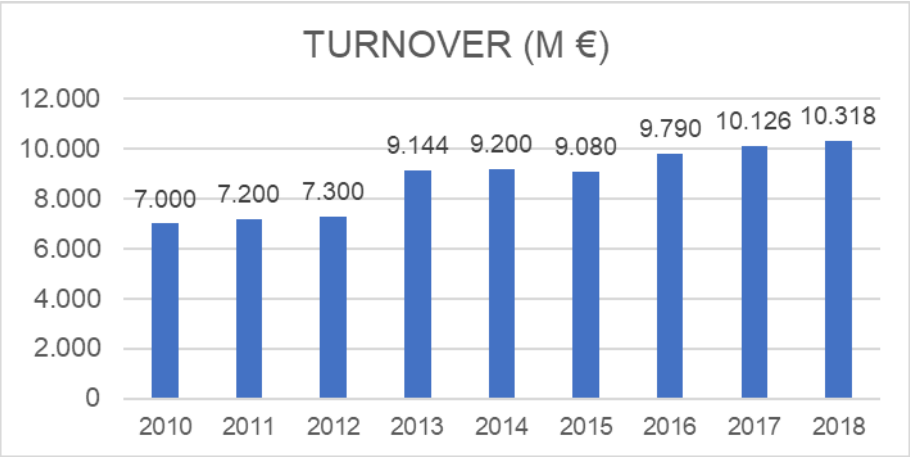

Fig. 11:Evolution of turnover in the cleaning sector [21]

Owing to a favourable economic scenario, the Iberian cleaning companies experienced a rebound in 2014, although the strong pressure on prices has decreased this effect in recent years in the section of job creation. In 2017, the data indicate that there were 31.938 cleaning companies (CNAE 81.2) and 516.773 workers in the sector (See Fig. 12). This fact supposes an important growth respect the forecasts of the studies realized in previous years.

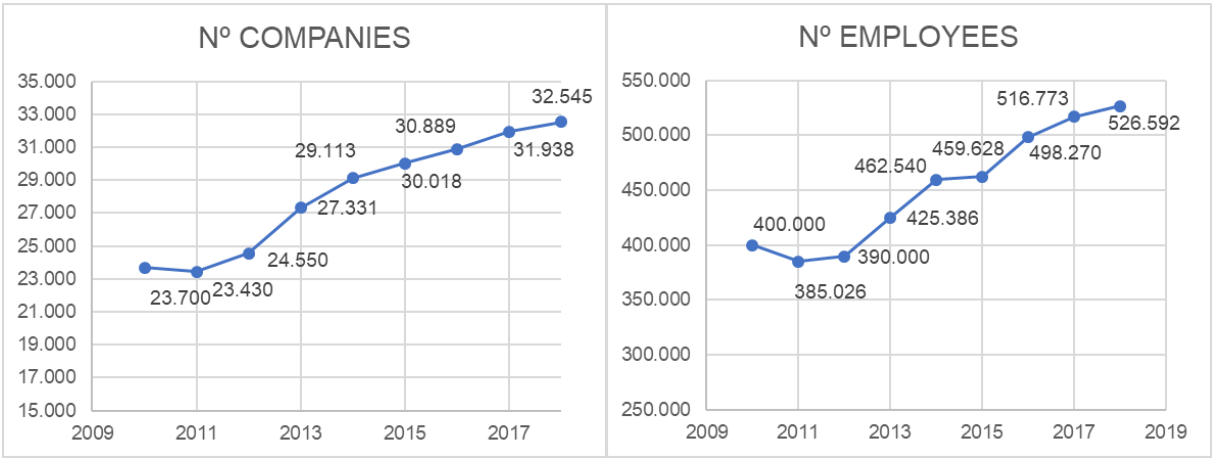

Fig. 12: Evolution of the nº of companies and employees in the cleaning sector [21]

The first five operators in the Spanish market jointly generated close to 16.5% of the total turnover in 2017. It is not an excessive datum, comparing to other FM areas, proving the relevance of Small and Medium-Sized Enterprises (SMEs) in the market. Even so, during the last years, the leading operators are increasing their size thanks to continuous acquisitions and mergers, reaching 30% of the market among the 10 largest companies.

According to J. Martinez Nogal, President of Cleaning Associations, Federations and Companies (AFELIN) in Spain, the crisis strongly affected this sector because of cutbacks by public administrations and private companies. This fact has forced enterprises in the sector to work hard to adapt to new circumstances and be more competitive, professionalizing their workers and betting on higher quality services. [21]

The prediction for 2019-2020, according to Juan Diez, chairman in Professional Cleaning Companies Association (ASPEL), points to a progressive slowdown in the growth rate with rates below 2%

Sector specialists asked about the possible improvements to gain savings in the cleaning services answer that working on improvement processes plans, synergies and technologic solutions are the most effective proposals for increasing savings. [21]

3.5.2 Maintenance

In 2016, the most recent data availed in this sector, the market of buildings and facilities technical maintenance registered an evolution similar to 2015, with an increase of 1.8%, to reach 8,030 million euros (See Fig. 13), in a scenario of smooth growth in demand. It is a positive growth for the sector after a few years of decline between 2009

and 2012. Currently, it is getting closer to reaching the outcomes level before the crisis (2008). The building maintenance segment accounted for 58% of the business. [22]

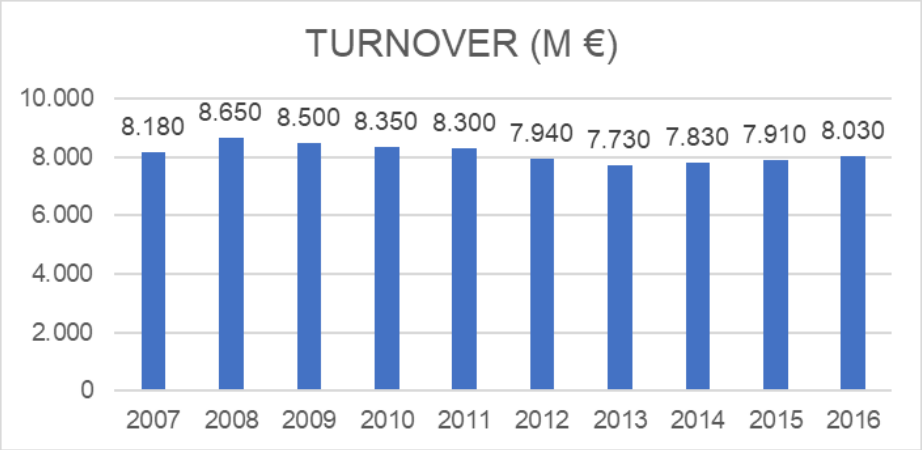

Fig. 13: Evolution of turnover in the maintenance sector [22]

The report says that in 2016 there were 6.814 building and facilities maintenance companies (CNAE 8110) in Spain. The main companies continue to expand their service portfolios to deal with the growing demand for global offers that unify the main auxiliary services in a single provider. Both, the number of companies and the number of workers (152.788 in 2016) follow a rising relative to the turnover (See Fig. 14).

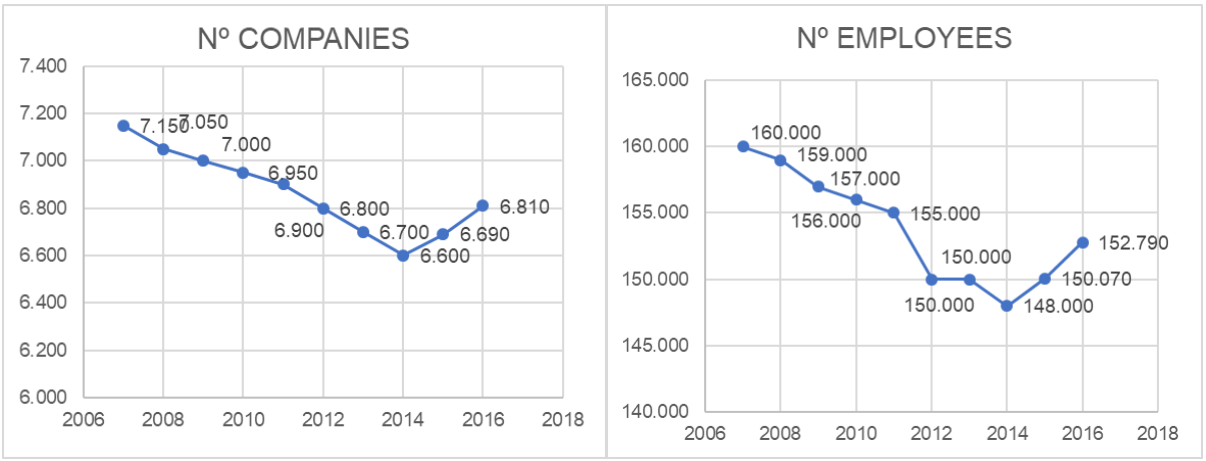

Fig. 14: Evolution of the nº of companies and employees in the maintenance sector [21]

The IFMA Spain CEO, D. Francisco Garcia, report that in recent years, it has appeared specifications that regulate the maintenance sector as "UNE-EN 16646: 2015 Maintenance. Maintenance in the management of assets" or "EN-17007 Maintenance process and associated indicators". These formalize the building and facilities maintenance service through a decomposition in processes that provides advantages such as [22]:

- Visibility of different subprocesses of the maintenance service.
- Identification of the necessary activities for the optimal development of the service.
- Facilitate internal and external benchmarking.
- Facilitate the elaboration of the operation and maintenance dashboard of the company.

3.5.3 Fleet Management

The fleet management market is evolving towards the Renting business in recent years. The Renting sector reached a portfolio of 447.623 units in 2015, increasing by 10% compared to the previous year. Currently, 92.8% of private and commercial vehicles are under the Renting regime. [5]

It is a growing sector since 2014, in that year there was a growth of 0.4%, exceeded in 2015 with a rise of 8.7% in turnover. In 2016, the turnover of the whole sector was 4.378 M € (See Fig. 15).

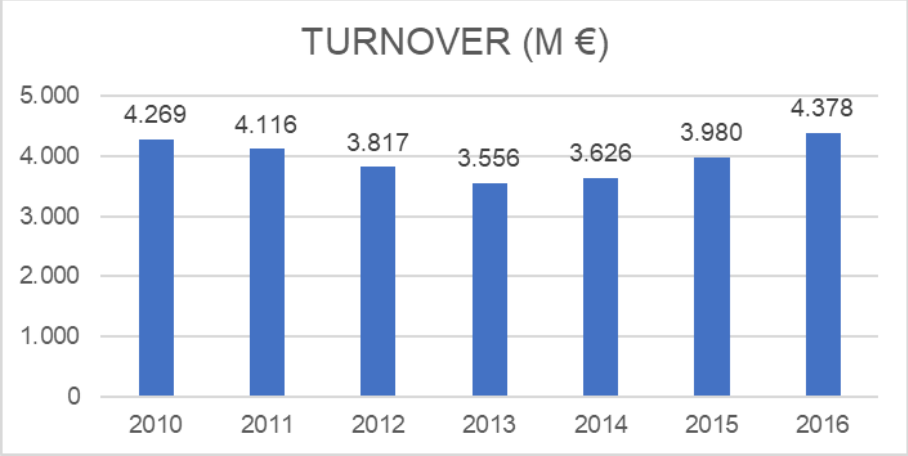

Fig. 15: Evolution of turnover in the fleet management sector. [5]

The number of companies in the sector is really low, around 30 (See Fig. 16). This is because of the fact that there is a high concentration degree in the market, the first 5 operators gather more than 60% market share and the top 10, approximately 85%.

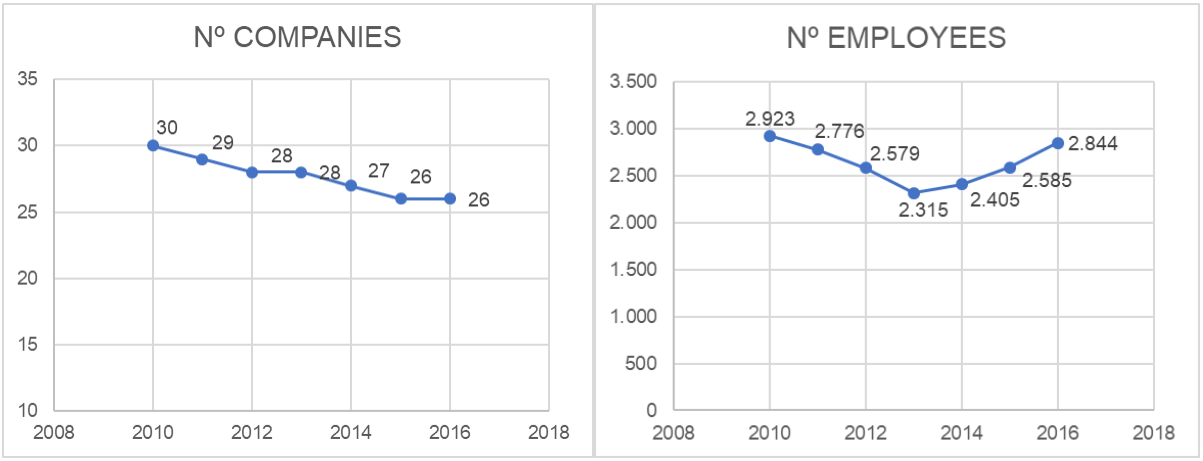

Fig. 16: Evolution of the nº of companies and employees in the fleet management sector. [5]

The gradual decrease in the number of companies in the sector can be explained by the high market concentration mentioned above. However, this factor does not imply the existence of large companies in the sector controlling the market, since SMEs have approximately 35% of the market and expect to continue with a positive trend in the coming years. [5]

3.5.4 Mail and Messaging

After five years of falls in the sector total turnover until 2014, in 2015 there was an increase of 4.2%, changing the trend and reaching a year later to 6,854 M€ in turnover (See Fig. 17).

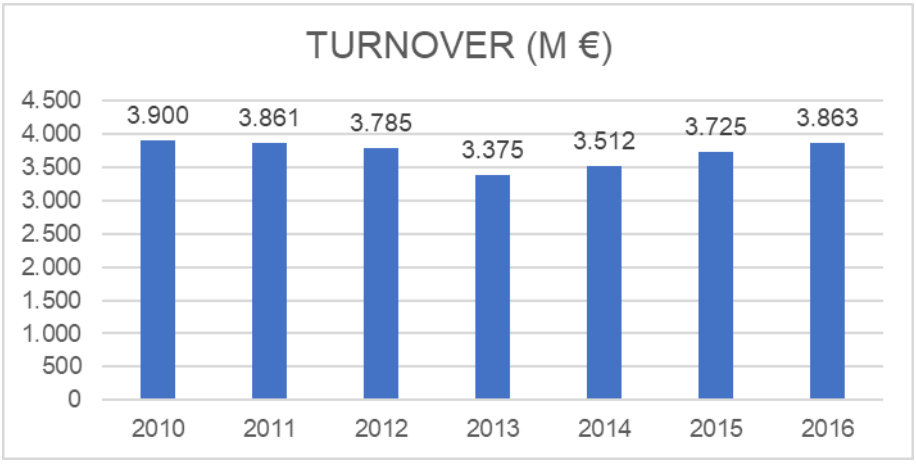

Fig. 17: Evolution of turnover in the mailing sector [5]

The business parcel service segment, which is the one that mainly affects FM Management, registered a 5.7% growth in 2015, from 3.512 million euros in 2014 to 3.725 million euros. The industrial parcel service segment reached 2.425 million, 2.1% more. [5]

The international turnover is seen every year more favoured by the rise of commercial relations of goods with other countries and the internationalization of the Spanish business system. It represents 25% of total billing (€ 1450 million in 2015), while the rest is still due to national activity.

In addition, both the number of companies and the number of workers follow a growth trend (See Fig. 18).

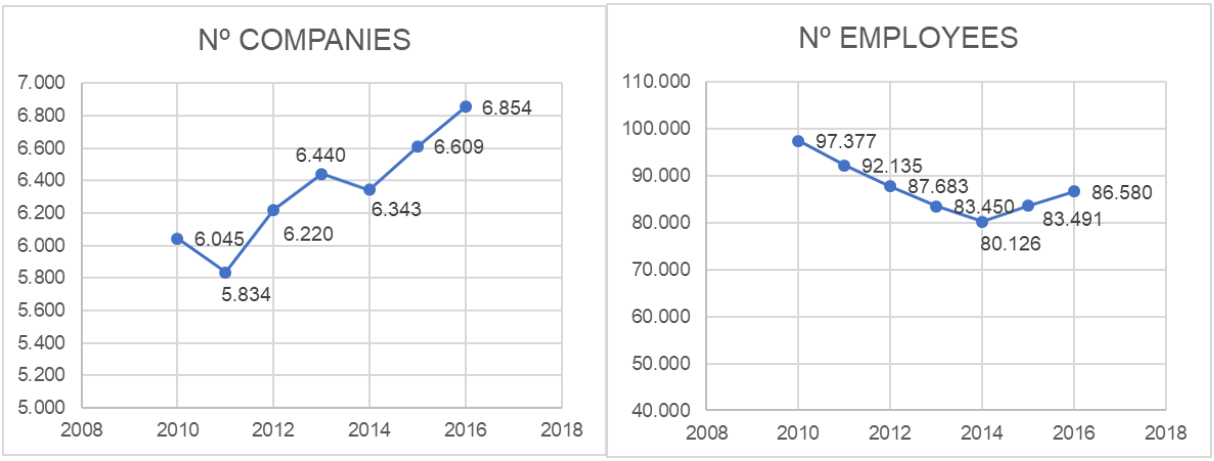

Fig. 18: Evolution of the nº of companies and employees in the fleet management sector [5]

According to José Castellvi, The Mail Company's CEO, the Industrial Revolution 4.0 has turned the mail and messaging market around in every way. It is evident that there is a critical reduction in the shipment of documentation, but, at the same time, the delivery of parcels and associates is growing exponentially.

Both, postal operators and courier companies and transport companies have had to adapt their characteristics to market demand. While the first ones are having to adapt their resources for a greater load capacity while maintaining, and even improving, the levels of urgency, the second ones must adapt their distribution capabilities to more agile schemes according to market demand. [5]

3.5.5 Catering

The catering sector lives a few years of moderate and constant growth, tends to average an approximate increase of 3% in total turnover compared to the previous year, as in 2016 and 2017 (See Fig. 19). [23]

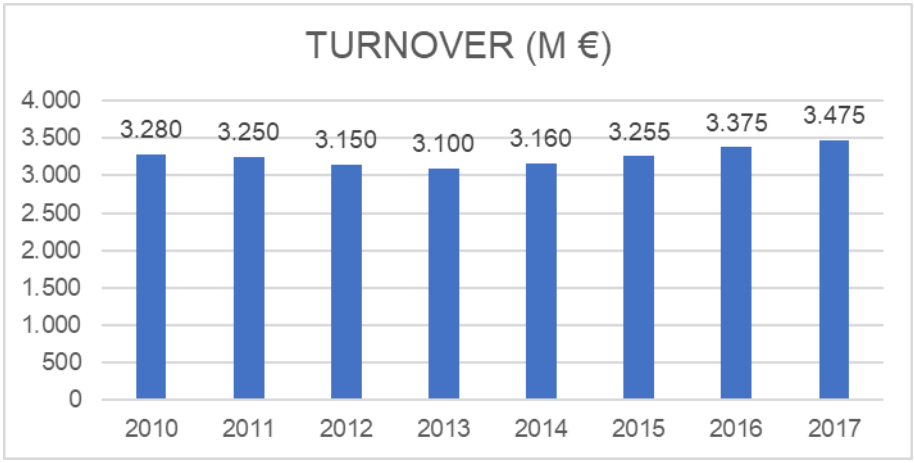

Fig. 19: Evolution of turnover in the mailing sector [23]

The total number of companies and employees are increasing following the same trend (the average ratio of employees per company is constant) (See Fig. 20). It should be noted that the growth of the sector has meant the creation of more than 5.000 jobs from 2015 to 2017. Despite this growth in the number of companies in the sector, the market share of the 5 largest companies is 40% and of the first 10 is 53%, high numbers compared with other sectors of the FM. [23]

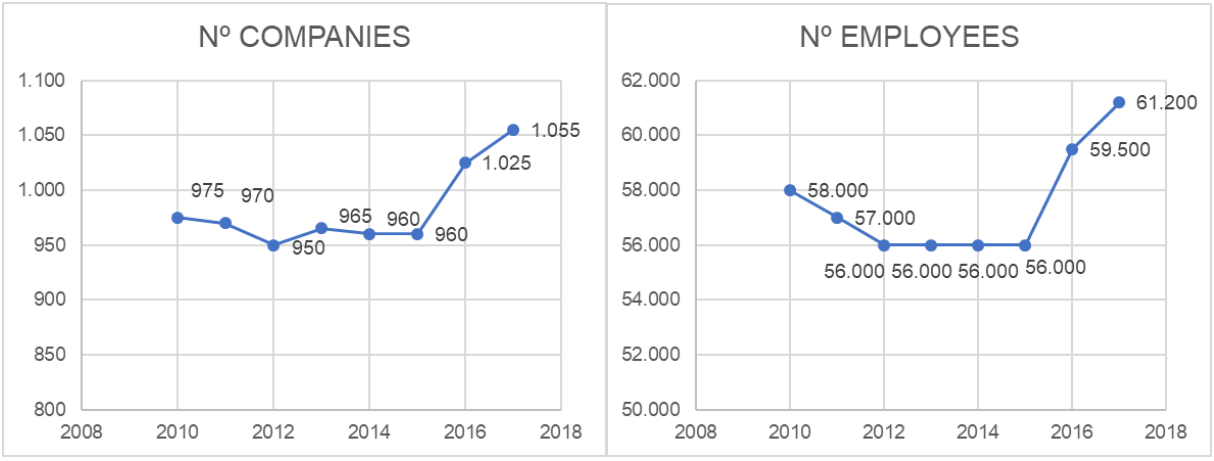

Fig. 20: Evolution of the nº of companies and employees in the fleet management sector [23]

Even with the growth that has existed since 2014, after the crisis came out, there is still big pressure on prices. New technologies can help the sector: pre-costing, productivity, inventory control in real time, supply logistics, etc.

The differentiation is based on the demands of society on social responsibility, sustainability and healthy diets with factors such as ecologic products, km 0 and waste control. The model is changing from B2B to B2B2C. [23]

3.5.6 Security

After six consecutive years decreasing, in 2015 it experienced a turning point in the sector, since then the total turnover has grown at a rate of 3% per year. Traditionally, the surveillance sector has always been the most important in the market (currently it contributes 61% of turnover), although it has been losing in favour of the systems segment. The total turnover for the year 2017 was 2.538 M€ (See Fig. 21). [23]

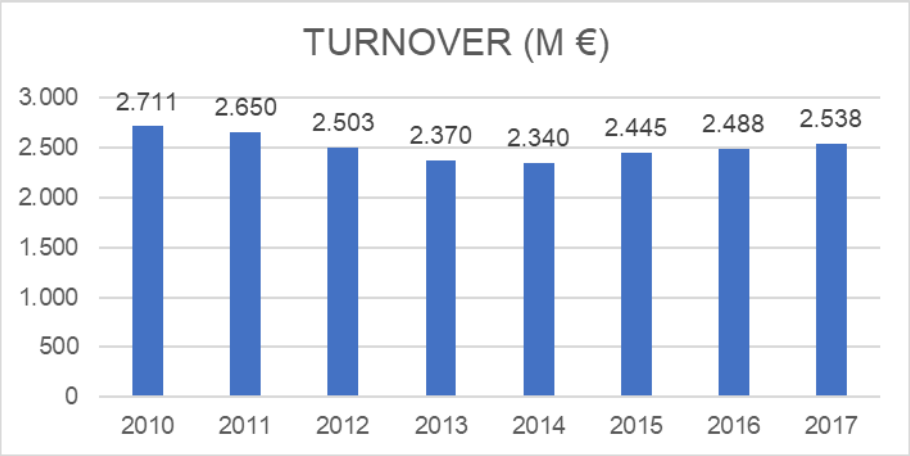

Fig. 21: Evolution of turnover in the security sector [23]

Regarding the number of companies and workers, the sector is in a constant growth trend since 2014. In 2017, there were an amount of 1.979 security companies (CNAE 80.10) and 82.158 workers (See Fig. 22). The market share of the 5 largest companies in the security sector exceeds 50% (56.1% in 2016) and constantly grows every year since 2014.

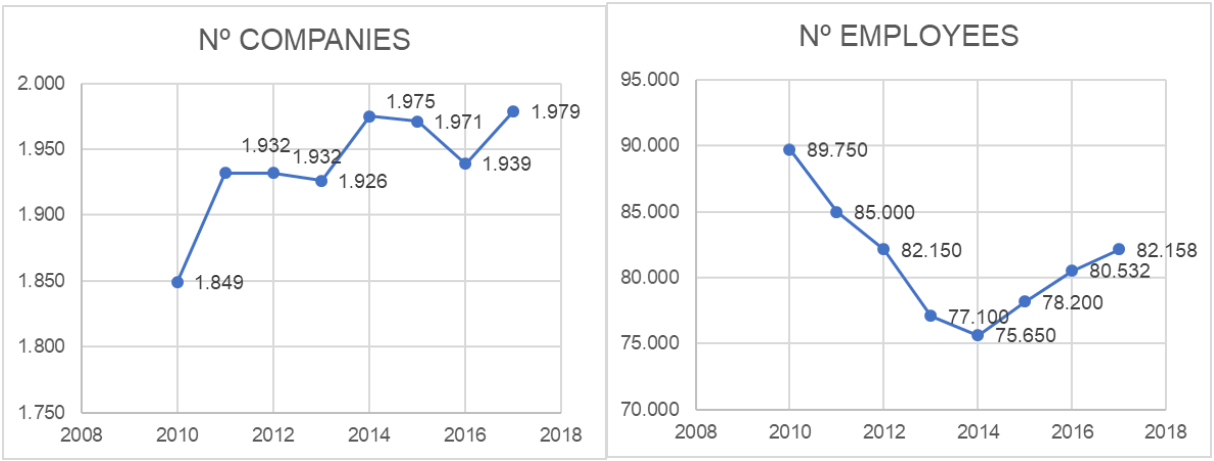

Fig. 22: Evolution of the nº of companies and employees in the security sector [23]

During the crisis, the participation of large companies in the Public Administration decreased, due to the price was sought as a differentiating factor. It is not a sector that

today is valued for the added value it generates, therefore, it is economic competition. The Spanish Government has announced the creation of a working group to analyse the hiring of private security services, a fact that generates positive expectations.

The future of the sector is in the application of technology and the design of more efficient security systems. [23]

3.5.7 Waste Management

Although the turnover volume of Spanish companies dedicated to the procurement of urban services exceeded 5.100 M€ in 2015, only the management of urban waste treatment and disposal plants generated a 1.400 M€ turnover (See Fig. 23), result that has remained in recent years. That year, around 18.5M tons of waste were recycled in Spain. The activity of this sector is closely linked to the improvement of the general economy of the country due to the increase in waste generated.

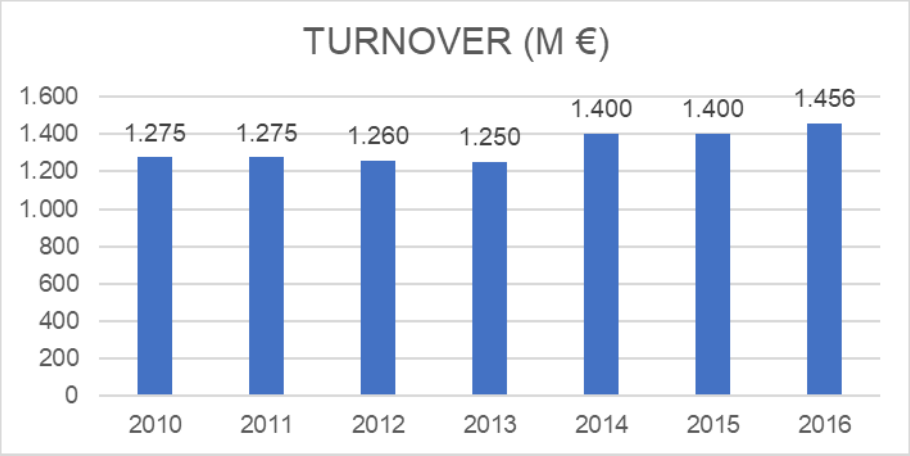

Fig. 23: Evolution of turnover in the waste management sector [5]

The market is still highly concentrated in large companies, which are usually subsidiaries of construction companies. 70% of the market volume is covered by the first 5 companies, while 60% of the 850 companies that work in the sector (See Fig. 24) have less than 10 workers. [5]

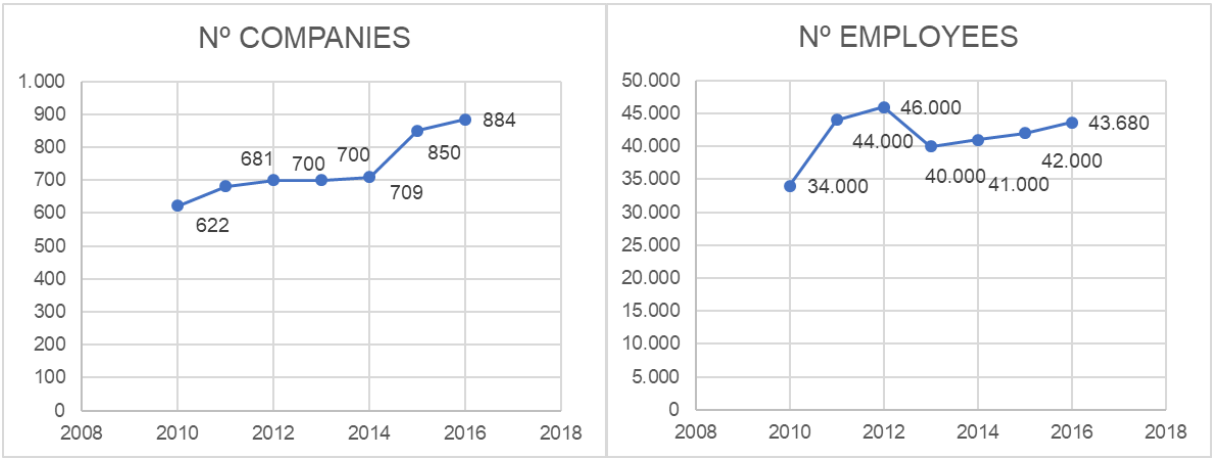

Fig. 24: Evolution of the nº of companies and employees in the waste management sector [5]

According to Oscar Martin, CEO of Ecoembes, a Spanish non-profit environmental organization that promotes sustainability and care for the environment through recycling, changing from a use-and-throw economy to a circular economy can provide an increase from 3 to 4 % in the European GDP, about 21.000 M€ in Spain. It is also a social opportunity: there are 175.000 jobs linked to waste.

The change towards the circular economy has to start from the companies, creating recycled products and avoiding packaging. [5]

3.5.8 Real Estate

The sector underwent a giant trend change as of 2013, with a big increase in investment in two years (2014 and 2015) (See Fig. 25) and which continues to be maintained today. Madrid and Barcelona are the cities where the investment is focused almost entirely, with 13 million and 6 million square meters of offices respectively. [5]

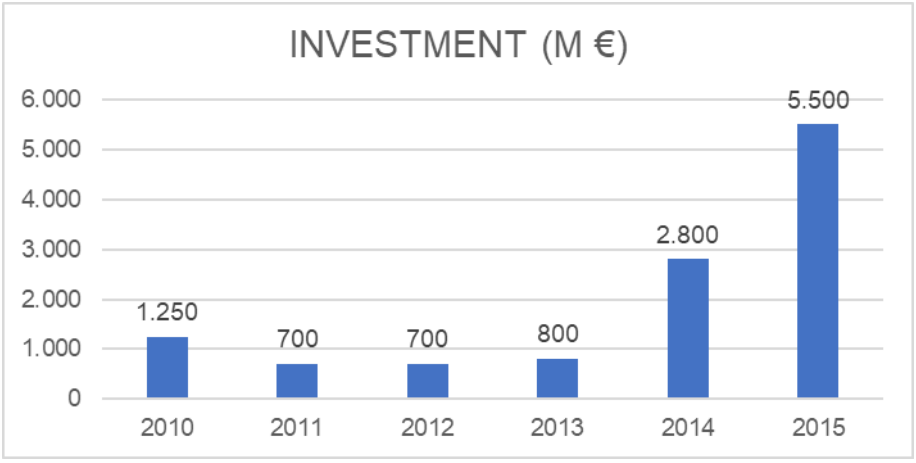

Fig. 25: Evolution of investment in the real estate sector [5]

This sector was severely affected by the crisis due to its strong connections with the construction sector. The crisis has caused companies to be stricter in their demands for office space. Demand-side requests more and more high-quality offices, in good locations, with a high technological component, and that are sustainable and energy efficient. It is a trend that will grow and therefore, the spaces that do not meet these conditions will be obsolete and out of the market. To satisfy this demand, space management strategies are applied to optimize the size and therefore cost.

In addition, it is a rapidly evolving market and there are also growing trends on the workspace such as open spaces and flexible work offices that modify the existing premises on the sector. [5]

3.5.9 Energy

The new way of understanding energy efficiency is making the sector not stop growing in recent years. In 2014 it did so by 5.3% and in 2015 by 6.2% (See Fig. 26). This is due to the needs of both Public Administrations and private companies to optimize resources, adjust expenses and reduce the environmental impact of their activities.

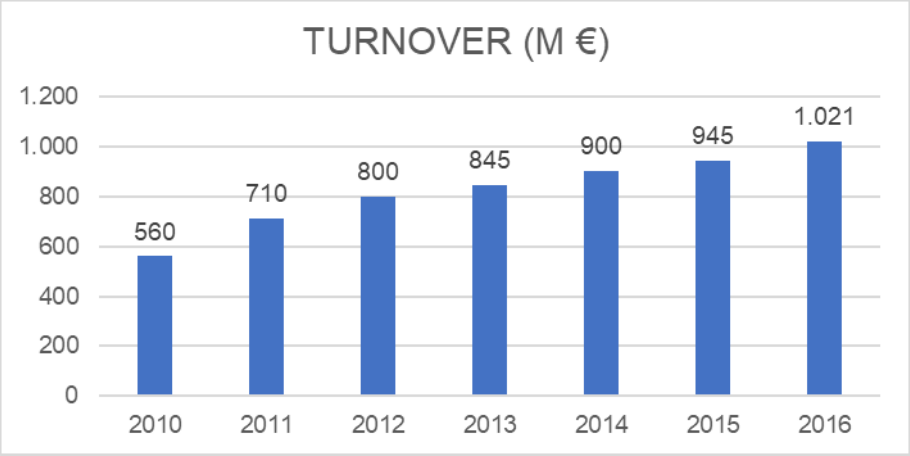

Fig. 26:Evolution of turnover in the energy management sector [5]

As in other FM sectors, energy management has a high concentration in the main operators, most of which are subsidiaries of construction companies. However, the number of companies has continued to grow at the same time as the sector and in 2016 there were 1.180 in total (See Fig. 27).

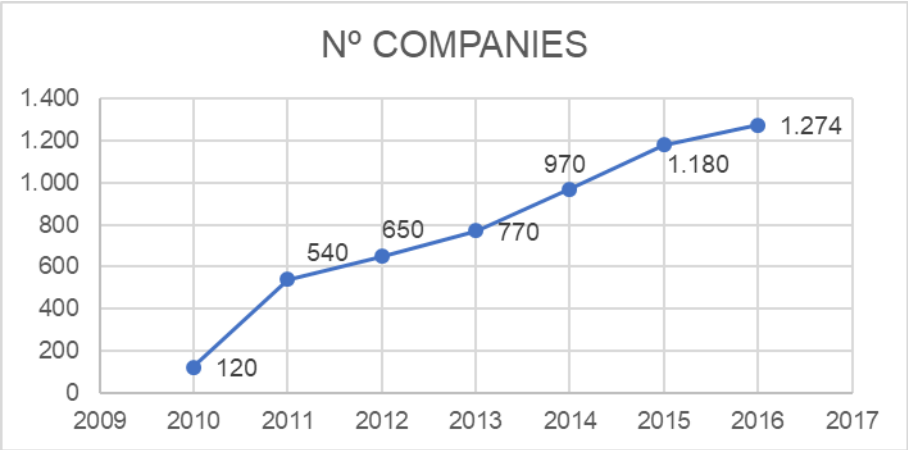

Fig. 27: Evolution of the nº of companies in the energy management sector [5]

The energy efficiency market has experienced a change in recent years thanks to the new mentality that is put into practice through new habits and society, the Spanish, which is committed to efficiency in the use of energy. Due to this, there is a change in demand that continues to value the price factor but, now also focuses on efficiency and sustainability.

Even so, many proposals in terms of energy efficiency have been paralyzed in Spain by political interests, an idea totally contrary to the European trend. [5]

4 Results and Analysis

After the data collected from the survey, the next step is to analyse the results obtained. To do this, the results of this study will be compared with the database available from the TU Wien Real Estate and Facility Management department, in which there is data from past studies of various European countries (such as Austria, Germany, Switzerland, Bulgaria, Turkey or also Spain) in previous years.

This section will be divided into two parts: the first one will study the evolution of the Spanish FM market since 2014. The studies carried out in this country in 2014 and 2016 will be used, to which the data of this year, 2019, will be added. The second part will be focused on comparing the current Spanish data with the most recent studies in the rest of Europe, to be able to identify similar trends among them.

4.1 Spanish FM Market Evolution

4.1.1 Basic Data of the Company

Of the 500 companies with the largest sales in Spain, a total of 26 participated in the study, as a sample of this population. They have been classified according to the sector they belong to (See Fig. 28) in order to identify the sample's nature.

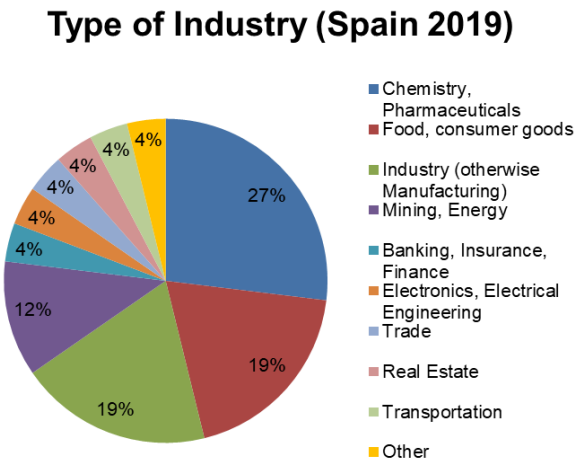

Fig. 28: Sectors in which the surveyed companies belong

Sectors such as Chemistry, Pharmaceuticals, Consumer goods, Manufacturing Industries (many from the automotive sector) or Energy predominate over others like

Banking or Real Estate. Even so, the sample seems to be fairly equitable with the reality of the population studied (Top 500 sales driven companies in Spain). [24]

To also understand the nature of the companies surveyed, a classification referring to the number of employees is added. Obviously, most of them are large companies (due to their sales ranking) and this fact is reflected in this graph (See Fig. 29).

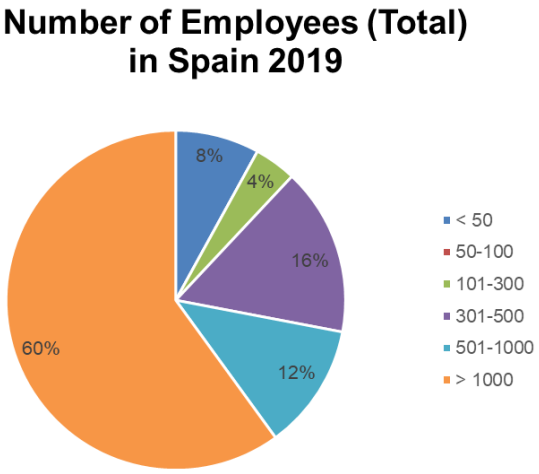

Fig. 29: Nº of employees of the surveyed companies

4.1.2 Organization

As discussed in the literature review, the Facility Manager concept has been introduced in Spanish companies gradually since years ago. The incorporation of this figure or the entire department is increasingly common in large companies, but it is not an idea that applies even to 100% of companies. The following chart (See Fig. 30) shows the evolution of the percentage of companies in which there is an FM department or a person with such responsibilities (Facility Manager).

By aligning the data of these three studies, it's easy to confirm that the FM concept is currently implemented in more than 80% of Spanish companies (92% according to this year's study). It is also remarkable the growth of the number of FM department in the largest Spanish companies in the studied period, specially since 2016.

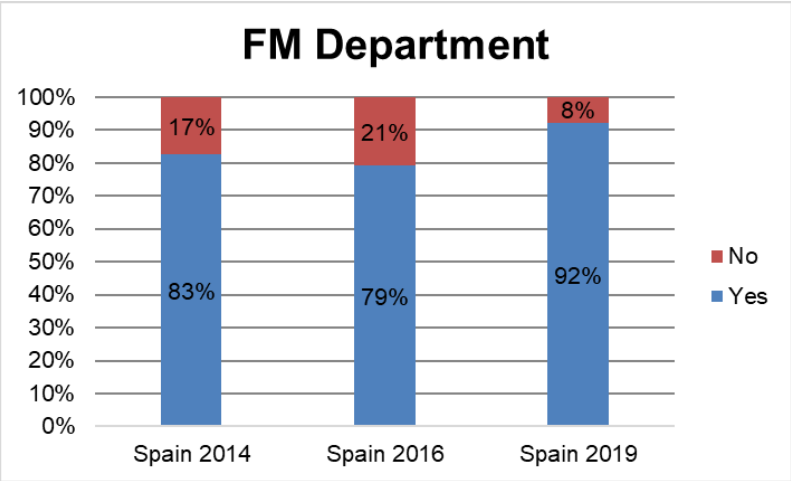

Fig. 30: Companies with an FM Department in their structure

Even so, the surveyed companies claim to have this type of department in their structures since 2003 on average. This fact can be explained by the tendency to evolve from a General Services department to one of Facility Management, which is not exactly the same but share several functions. [25]

The General Services Department has the duty to provide the services required by the organization in terms of communications, transportation, correspondence, file, reproduction of documents, intendancy, monitoring, messaging and the provision of preventive and corrective maintenance among other aspects. Meanwhile, as already described above, the FM department also manages, in addition to all these auxiliary services, the buildings of the organization. [26]

If the number of Full-Time Equivalent (FTE) employees that the companies use in the FM department is observed (See Fig. 31), in 2019, 33% of the surveyed companies claim to dedicate between 11-50 FTE employees. Only 10% dedicate more work force. Compared with previous years, the trend shows that the size of the FM department is gradually increasing, reaffirming the growth of the sector in the market.

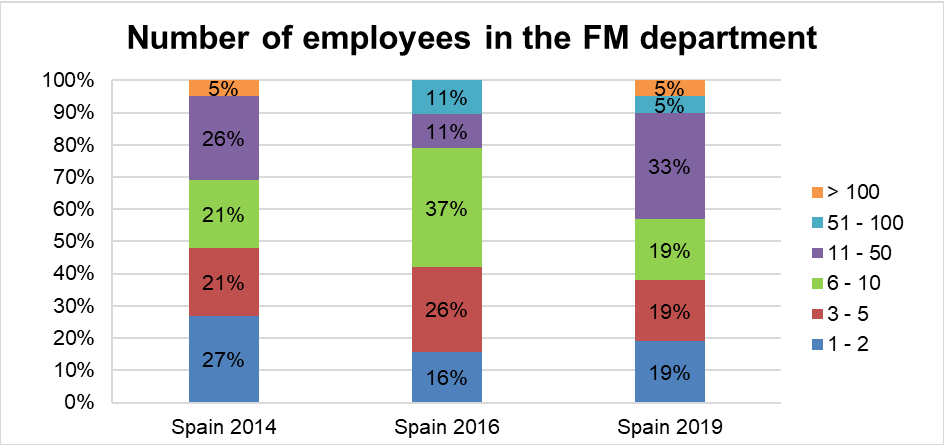

Fig. 31: Number of FTE employees in the FM department

In addition, it can be appreciated how the number of departments with less than 5 employees decreases in a yearly basis (from 48% in 2014 to 38% in 2019) demonstrating the sector professionalization and the increase in applied resources. Spanish companies do not usually allocate more than 50 FTE employees to the FM department (only 10% of surveyed cases).

About the hierarchical level of the department, approximately two-thirds of companies place the FM department in staff function level (See Fig. 32). The primary purpose of staff positions in most companies is to provide assistance and specialized advice and expertise to colleagues in line positions. For example, human resources, accounting, public relations and the legal department are generally considered to be staff functions. [27]

The other companies consider the department part of the line function, those directly involved in the daily operations of a business by selling or producing a product or service (company core), but at a second level within it. [27]

Only 5% of companies in 2019 place the department below these structures and, if compared with the results of previous years (0%) and assuming the margin of error, it can be understood as a sample's coincidence. This shows good integration within the structure of the FM department, whatever its position.

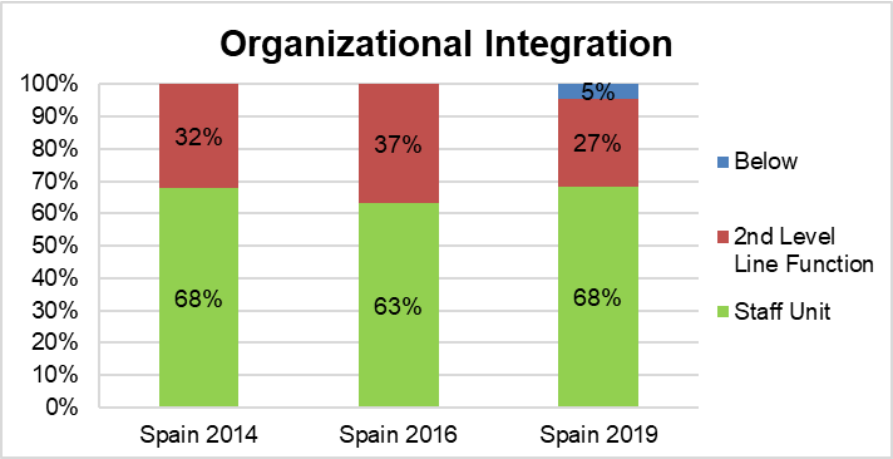

Fig. 32: Organizational Integration of FM Departments in Spain

Regarding the description of the processes that must be carried out by the department, the positive response received from the Facility Managers surveyed (100% in 2019) (See Fig. 33) is notifiable, which confirms their good structuring and the predisposition of the companies to give them obligations and weight within of the organization chart.

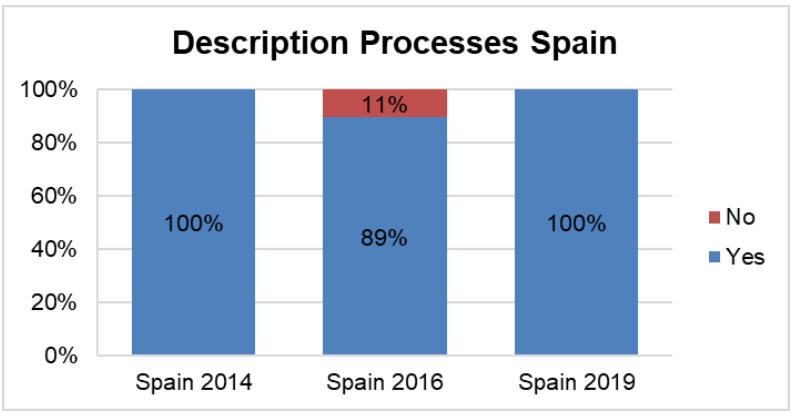

Fig. 33: Companies which describes the FM processes to their departments

As it has been mentioned several times, FM is an interdisciplinary business function that coordinates space, infrastructure, people and organization. When the surveyed companies are asked about the most relevant objectives or strategies that their departments follow, the answers can have a great variation among them.

The following graph shows the percentage of respondents who consider the following department objectives "relevant" or "very relevant" (See Fig. 34). The most valued are *quality assurance* and *cost transparency*, with 84%. Many of the objectives with better references are usually strategies designed to generate added value for the company such as *quality assurance*, *safety/reliability* or *integration,* and exceed a historically critical objective in this type of department, *cost reduction*.

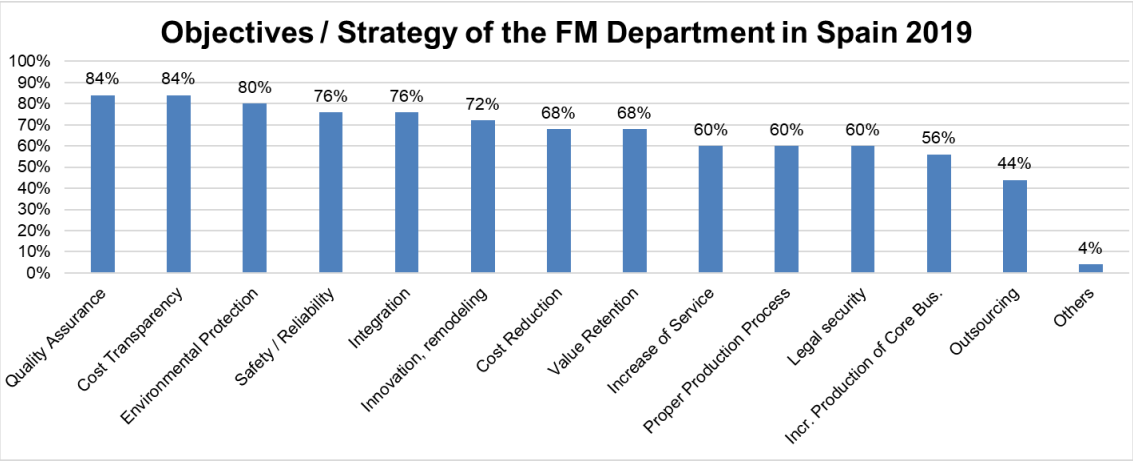

Fig. 34:Most frequent objectives of the FM Department in Spain 2019

One of the best-valued strategies is the integration of the services, that means to be able to integrate the largest number of services with the least number of providers. This idea is a growing trend towards the entire European market, as it brings benefits such as reducing costs and improving the relationship with the supplier, creating synergies. However, it is surprising that outsourcing is the least valued option (44%) since it is strongly related to integration.

If the 2019 results are compared with previous studies conducted in Spain (See Fig. 35), different conclusions can be drawn. After normalizing the outcomes to compare them correctly, several ideas can be extracted. The first one is the weight decrease in cost reduction strategies in the FM departments in the Spanish largest companies, contrasting with the increase in the strategies that generate or retain value. A tendency that during the literature review chapter has been repeating and that reaffirms this study.

The other values remain fairly stable within maximum variations of approximately 10%. However, the outsourcing does not follow that pattern. Its value falls drastically and is about half relevant than it was in the past years. These results on the outsourcing values should be analysed together with other later issues and data to draw accurate conclusions.

Some objectives shown in the previous graph have not been analysed in this comparison because they have been recently added, and there are no data in past studies.

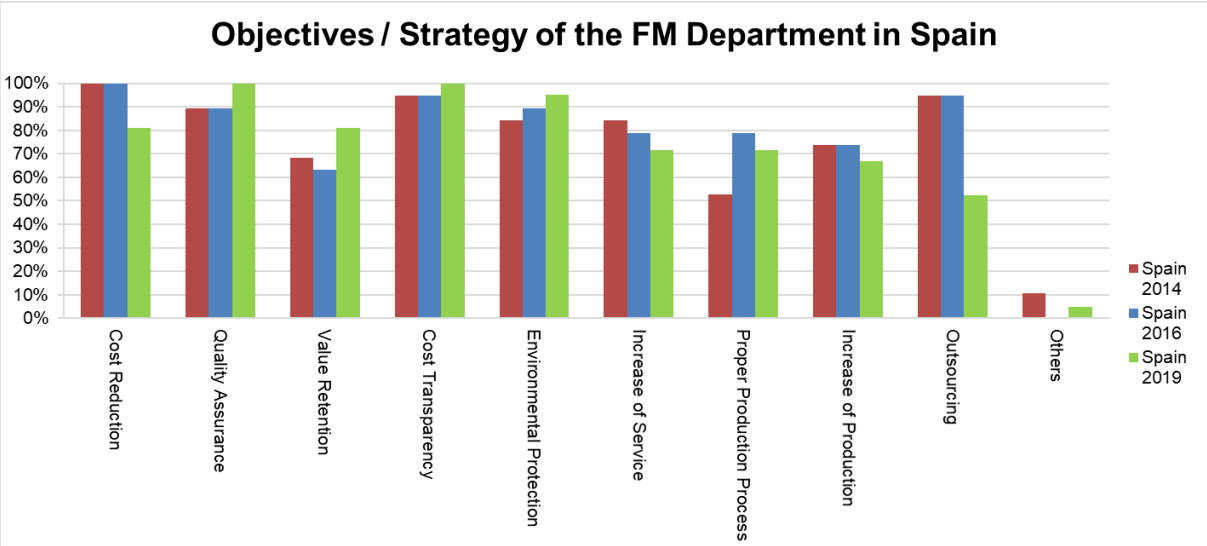

Fig. 35: Evolution of most frequent objectives of the FM Department in Spain

If the biggest cost factors of FM department are analysed (See Fig. 36), it can be easily identified which are the most critical ones: *energy, maintenance, cleaning* and *staff* are considered as relevant cost factors in, at least, 50% of surveyed companies.

Only security can also be considered a relevant cost factor in the Spanish market since the rest does not exceed 10% of the cases.

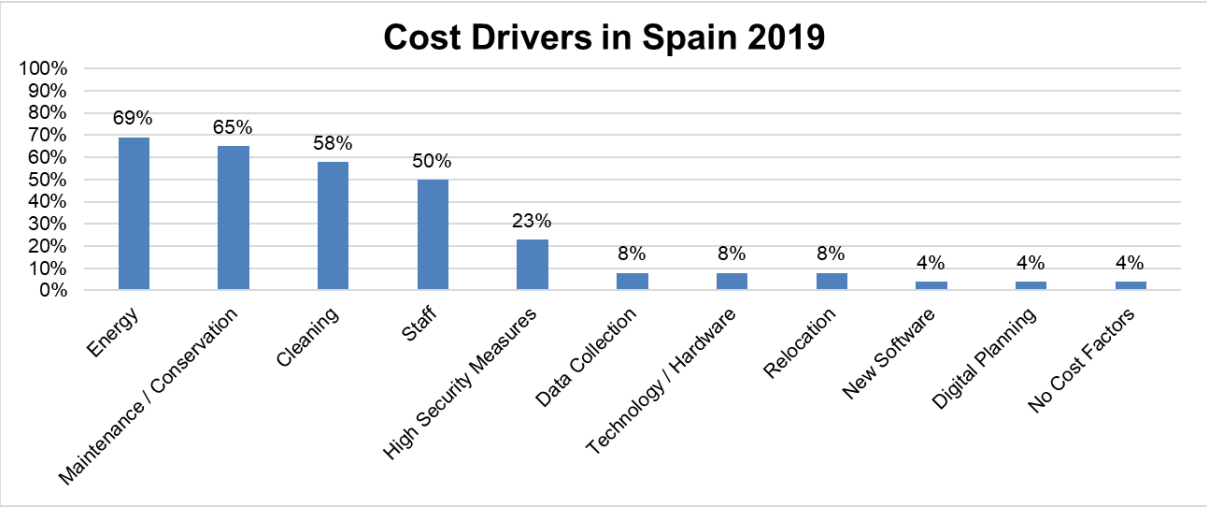

Fig. 36: Most frequent cost drivers in FM Department in Spain 2019

If the evolution during the last years is studied (See Fig. 37), it is perceptible that the 2016 and 2019 trends are quite similar. Only an increase in the energy option makes a difference. Regarding the 2014 outcomes, they diverge considerably by highlighting

cost drivers such as *new software* and *implementation* that are not considered by the surveyed managers in the coming years.

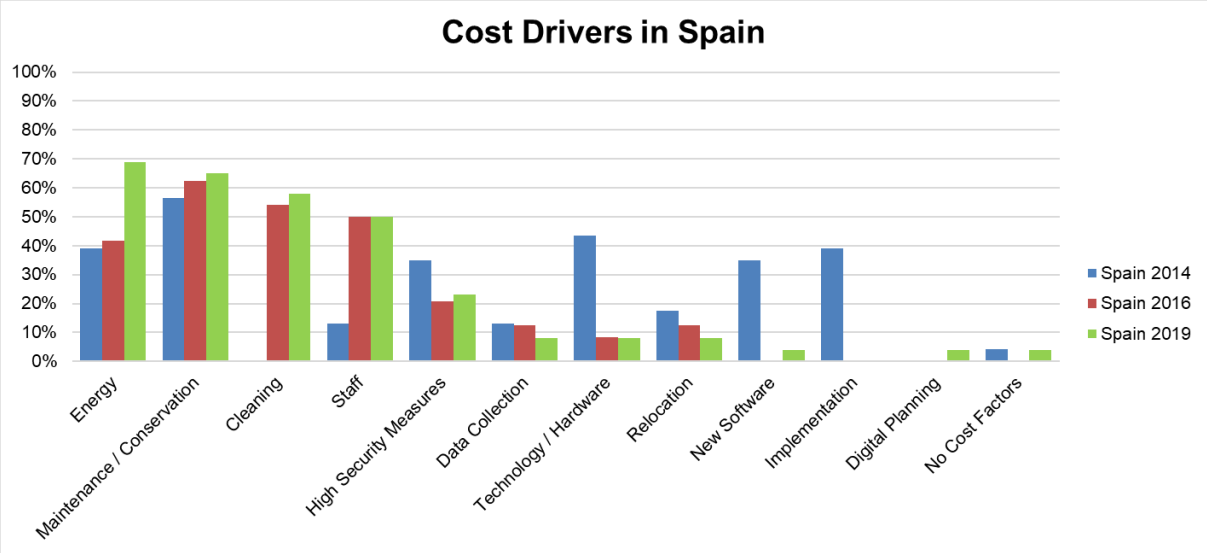

Fig. 37: Evolution of most frequent cost drivers in FM Department in Spain

About the idea of the four most critical cost drivers, the 2016 and 2019 surveys coincide again, but not the previous one in 2014, in which, for example, cleaning is not valued as a critical cost driver.

Once the major cost drivers are analysed, the next step is to study in which fields the FM department has achieved savings (See Fig. 38). It is remarkable that, being field the most critical cost drivers, the energy field is also in which a greater number of savings are achieved (with a frequency of 58% of the cases), with an average saving of 16%. Cleaning and staff are also fields where significant savings are achieved, with an average of 16% and 29% respectively. However, in maintenance field is not as easy to achieve cost savings (only 12% of cases). The highest average cost savings are achieved in staff field.

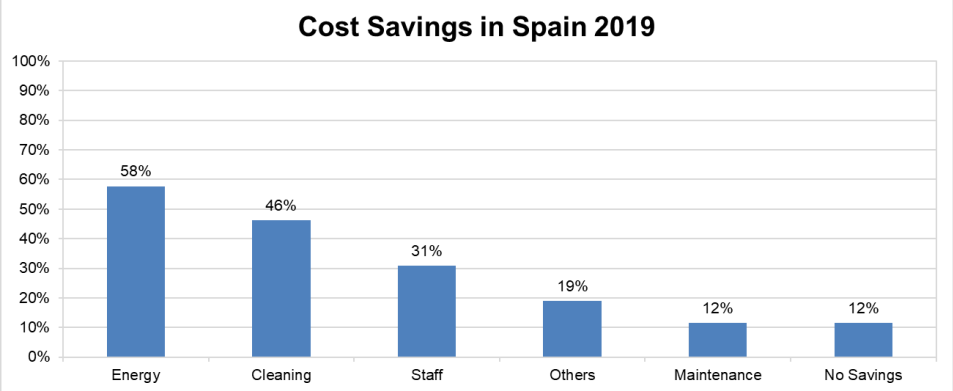

Fig. 38: Most frequent cost saving fields in Spain 2019

In comparison to the previous years (See Fig. 39), a trend like the 2016 outcomes is observed again. A gradual increase in cost savings in the energy field can be observed. On the other hand, compared to 2014, in cleaning and staff fields, there is a remarkable savings decrease.

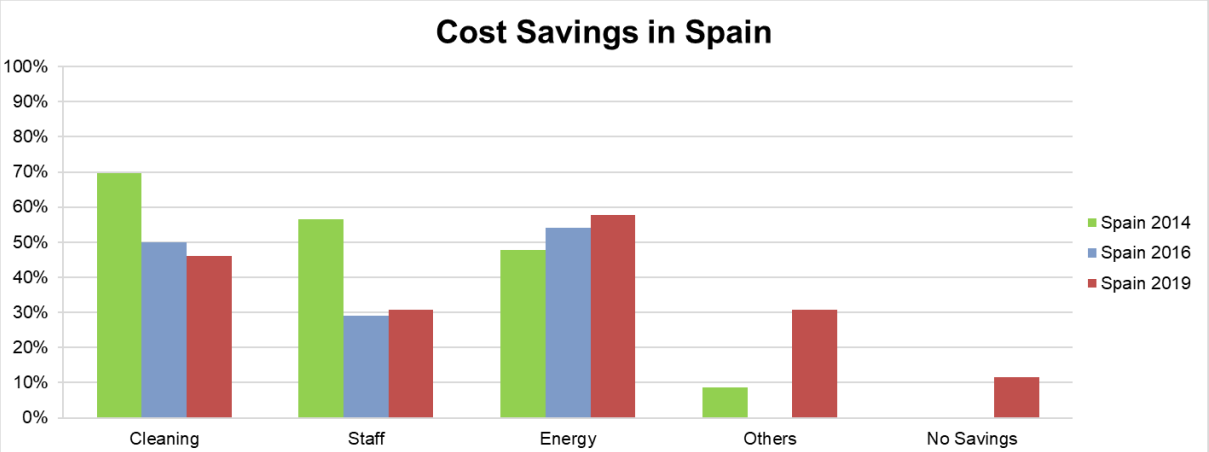

Fig. 39: Evolution of most frequent cost saving fields in Spain

The next question asked is about the measures taken to achieve the desired savings (See Fig. 40). Of the possible options given in the questionnaire, the most selected is new forms of contract, followed by reorganization and best rates/conditions. Although no one stands out above the other measures, a tendency towards internal management and non-abrupt measures, such as those mentioned above, exists.

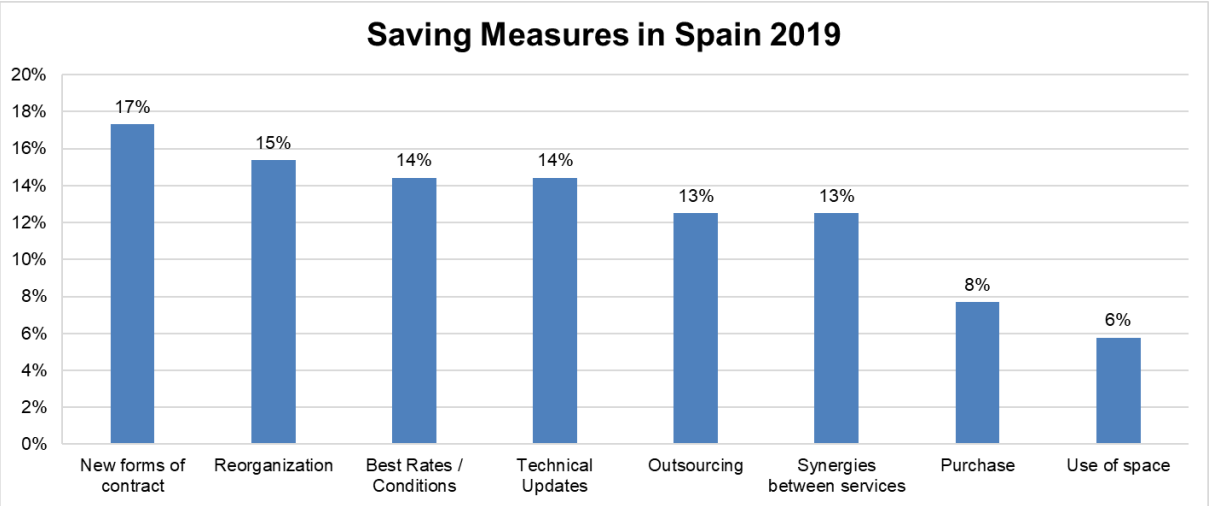

Fig. 40: Most frequent saving measures performed by FM Department in Spain 2019

As it can be seen, the outsourcing is not a relevant measure to gain cost savings in Spain (only 13%).

The evolution of these data (See Fig. 41) continues making clear a big differentiation between the 2014 results and the later ones, at least in the field of savings. It is perceptible a slight growth in the creation of new forms of contracts and synergies between services, but the other outcomes between the last two studies are quite similar to highlight some important change.

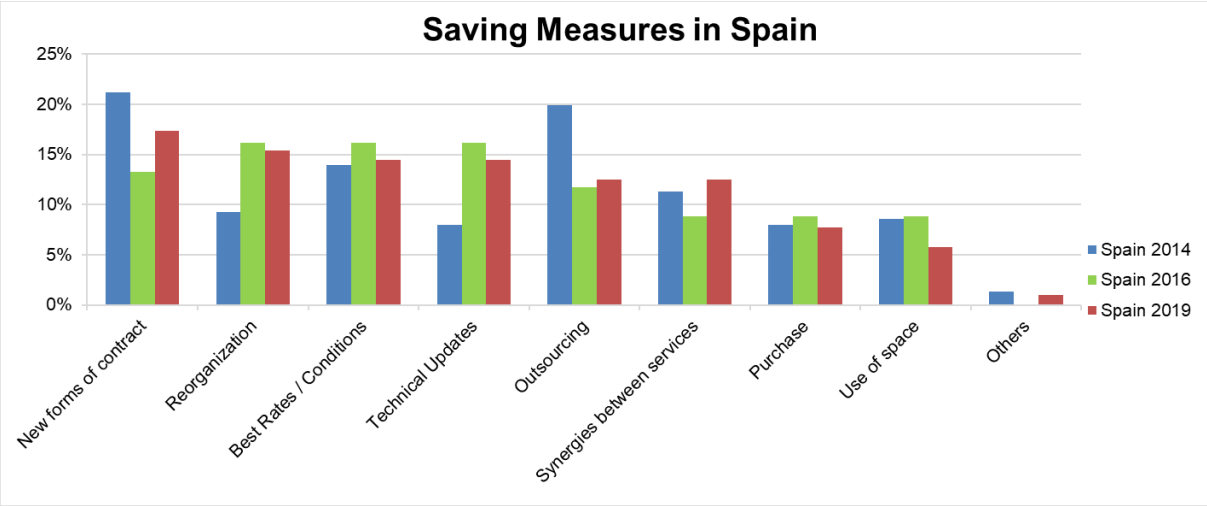

Fig. 41: Evolution of most frequent Saving Measures performed by FM departments in Spain

If the measures are divided according to the field in which they are applied, the following results are observed:

- In the staff field, *outsourcing* (hiring external personnel to perform specific services) and *reorganization* dominates, an option that tends to be attractive because it is not an aggressive measure and the reduction of costs that it may entail.
- In energy management, the dominant measures are *new forms of contracts* or *technical updates*.
- In the cleaning field, dominates the application of *new forms of contract* ahead of the *reorganization* and *synergies between services*.
- In the maintenance field, the most applied measures are *reorganization* and *technical updates*, such as predictive maintenance.

The data on the energy management field fit with the literature review on the growth of the sector in Spain since 2010 [5]. Compared with more mature and stable sectors (maintenance and cleaning) [22], the energy field has a large margin for improvement, especially because of the technical updates appearing currently.

To find out in which areas and what measures have used the Facility Managers surveyed to increase the productivity of the company, an open question was asked to give them freedom answering. Later, to classify the answers and draw conclusions, the fields were classified according to the document "EN 15221-4: Taxonomy, Classification and Structures in Facility Management". In the following figure (See Fig. 42) the results are presented.

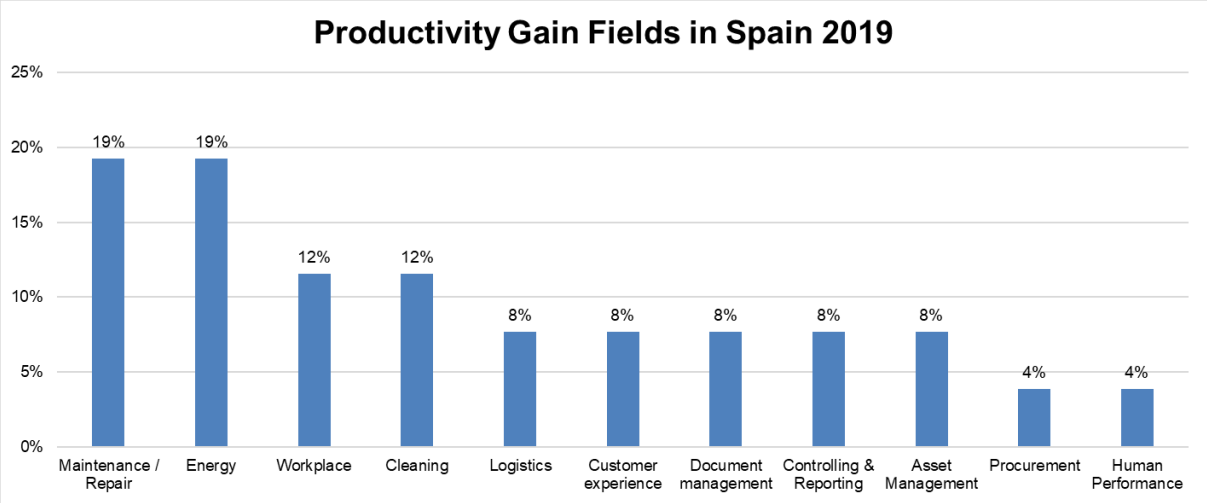

Fig. 42: Most frequent fields in which the FM department achieves a productivity gain

It shows that most frequent productivity gains appear in two of the most relevant fields of the FM market: maintenance and energy management. Profits in the workplace and cleaning (another two basic pillars of Facility Manager functions) are also relevant. It can be clearly seen that, in terms of economic savings and productivity gains, the same fields are critical and therefore, they must be analysed and worked on firstly.

After studying the fields in which gains are achieved, the next step is to analyse what measures are taken to achieve them. In the following figure (See Fig. 43) it is easy to observe that unlike the case of savings, outsourcing is a frequent option in Spain to get improvements in production, as well as being reliable.

According to the graphs, outsourcing is the resource that generates more productivity gains (20% of cases) but does not produce cost savings with the same ease. The two measures that generate more productivity gains after outsourcing are *process optimization* and *new forms of contract*.

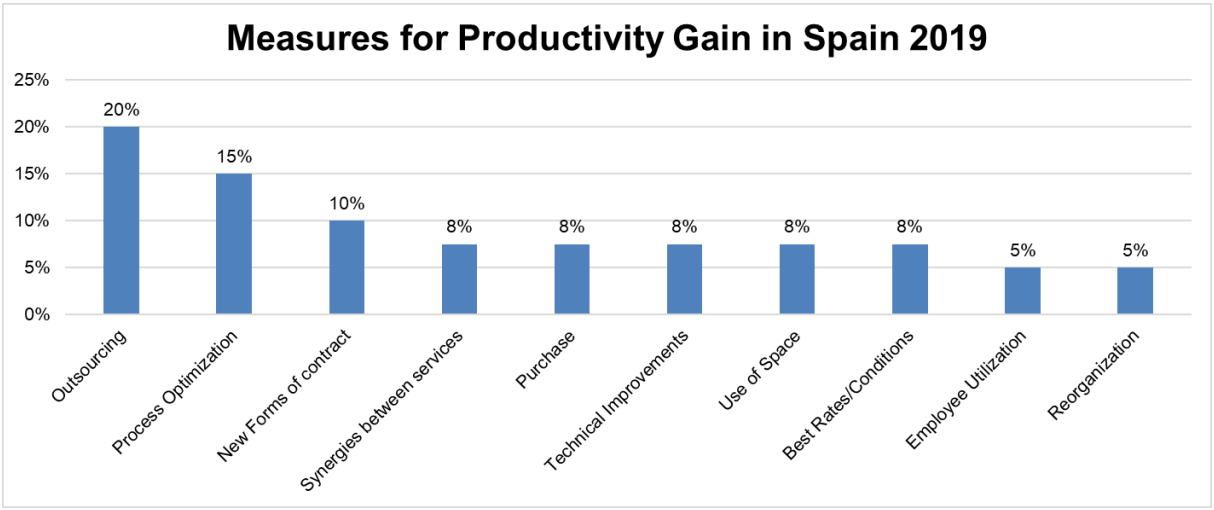

Fig. 43: Most frequent measures for achieving productivity gains by FM in Spain 2019

New forms of contract seem to be the most well-balanced applied measure. According to the respondents, applying them, they can both generate savings (17%) and gain productivity (10%).

When it is wanted to compare the results of the current study against those of previous years, problems arise because there are current measures that were not considered in the past (now is an opened question) (See Fig. 44). Even so, it's remarkable that the measures like *process optimization* and *synergies between services* were the two most frequent in 2014 and 2016, a fact followed by the 2019 trend.

In contrast, other options such as *employee utilization* and *reorganization* are quite frequent in previous studies, meanwhile in 2019, they are the two least performed.

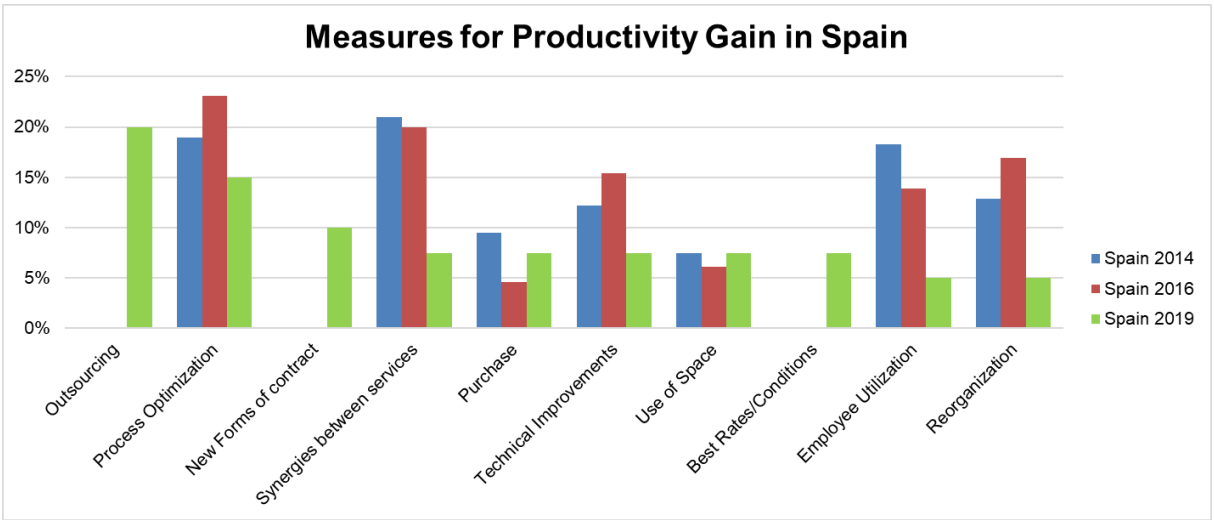

Fig. 44: Evolution of most frequent measures for achieving productivity gains by FM in Spain

To know if the office buildings managed by the FM department tend to be rented or owned in Spain, the results on this question have been compared between the different years' studies (See Fig. 45).

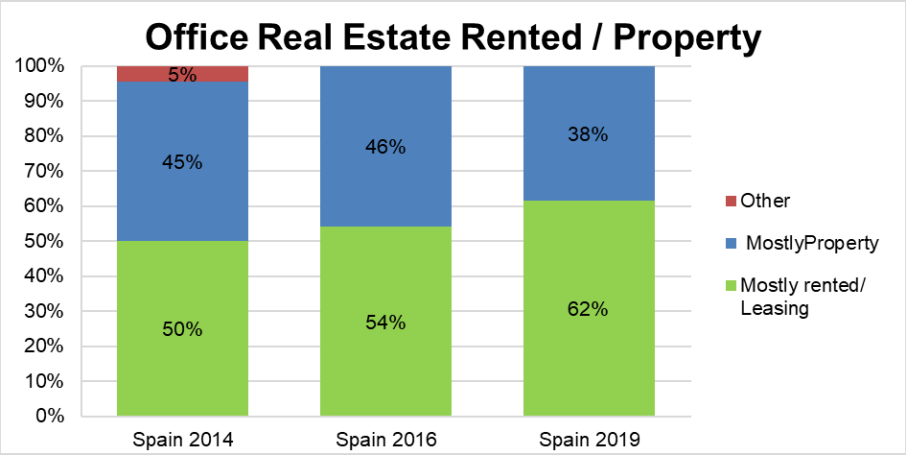

Fig. 45: Percentage of companies with office buildings mostly rented or owned in Spain

In the Spanish market, there is a growth in the tendency to rent or hire by leasing the real estate office buildings. Currently, according to the study, 62% of the companies have their office buildings mostly rented or leased. This trend has grown by 12% since 2014 (50% to 62%).

The last question in this section of the survey is about the number of buildings that the department is responsible for. In the following figure (See Fig. 46), it is easy to see that the selected sample does not show any trend on the number of buildings in charge of the FM department. The most frequent range is from 11 to 50 buildings (due to the size of the companies studied). Only 13% of the cases are responsible for more than 50 office buildings, marking a kind of limit on the right amount of work for an FM department.

The mean of office buildings in charge by the FM department is 13,9, while the average of FTE employees per managed building is 2,96 employees/building.

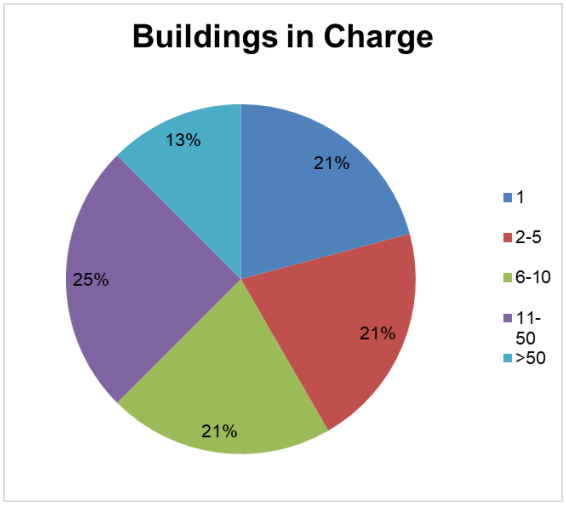

Fig. 46: Nº of buildings in charge by the FM department

4.1.3 Outsourcing

As has been repeated throughout the thesis, outsourcing is a key activity in the FM market. Make good decisions regarding which services delegate to suppliers and which ones not, can produce relevant variations in savings and also in the added value of the department activities. To better understand how this activity works in Spain, a part of the questionnaire is focused on outsourcing.

In reviewing the evolution of the number of external service providers hired in the last year by the FM department (See Fig. 47), it is observed that there is a trend that evolves towards a greater number of providers use, comparing the current data with those of the previous years (a relevant increase in ">10" range).

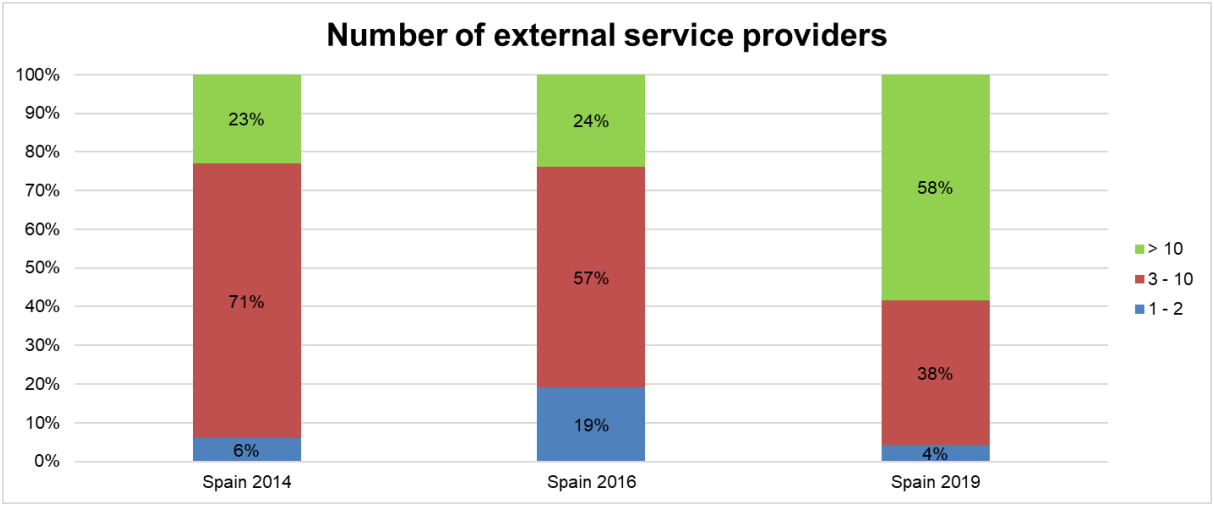

Fig. 47: Number of external service providers

This strong growth (increases from 24% to 58% in cases with more than 10 suppliers) refuses the possible divergence in the sample because of the margin of error. These facts are far from the studies on the right functioning of FM departments that recommend unifying the maximum number of services in the least number of suppliers to create synergies, increase the involvement and achieve economies of scale.

Another parameter to study in the sub-contracting section is the percentage of outsourced services within the FM department (See Fig. 48). It is observed that in the various studies carried out in Spain, the level of subcontracting has always been very high (more than half of the FM department subcontracts between 75% and 100% of its services). This high level of subcontracting can be related to the high number of contracted suppliers, seen in the previous figure.

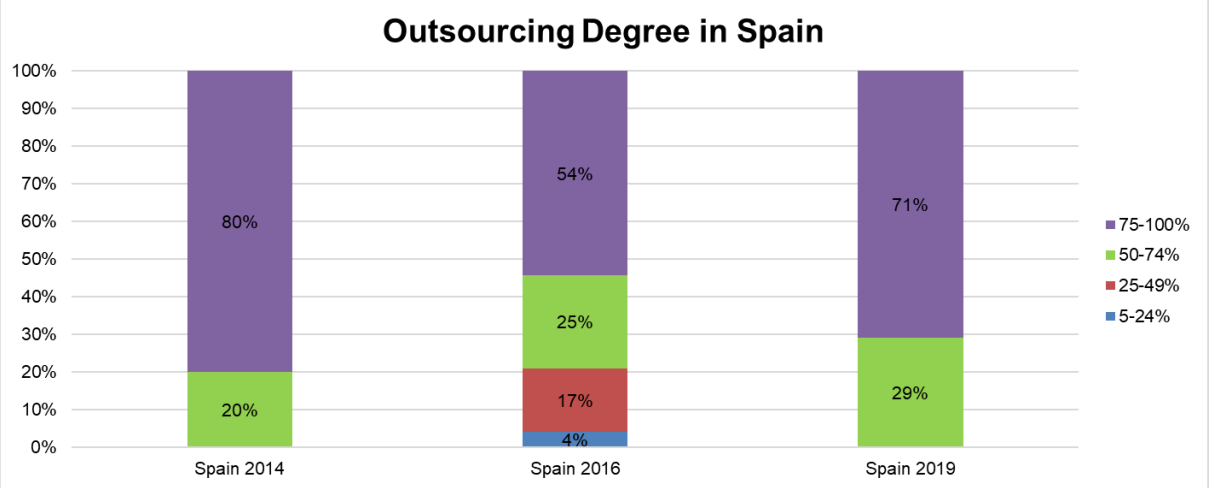

Fig. 48: Evolution of outsourcing degree in Spain

In 2019, no company in the sample has outsourced less than 50% of FM services.

It was decided to analyse carefully if there is any type of interdependencies between the size of the FM department and the degree of outsourcing of the companies. When searching for the correlation between these data, no clear interdependence relationships have been found (See Fig. 49). It is not possible to perform a correct and reliable correlation with such a small sample size.

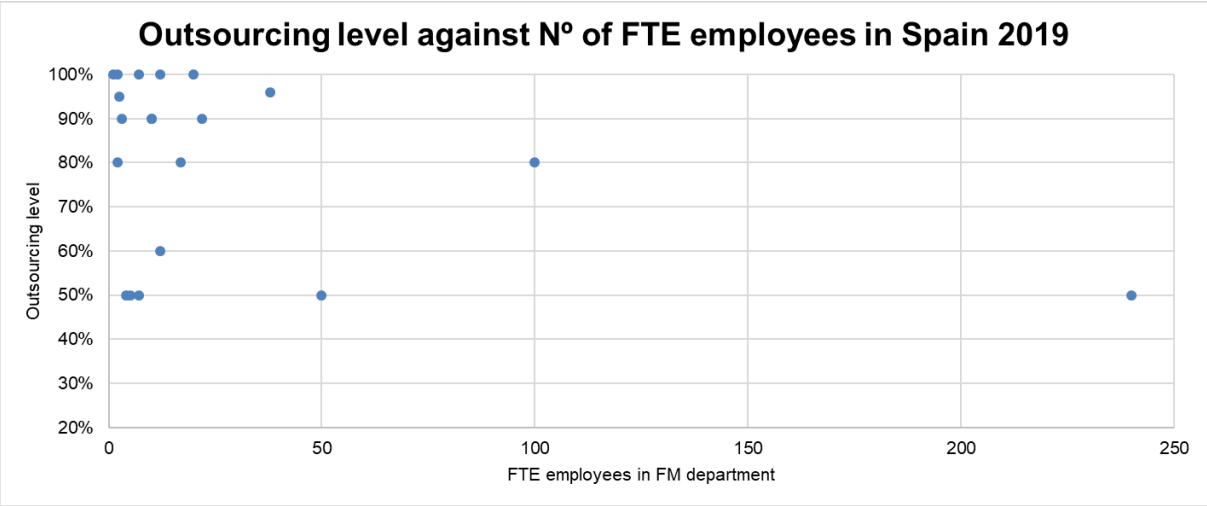

Fig. 49: Scatter plot outsourcing level against FTE employees in FM department in Spain 2019

When studying the number of FTE employees in the FM department by specific ranges, there is a tendency to reduce the level of outsourcing in companies with large FM departments. (See Fig. 50)

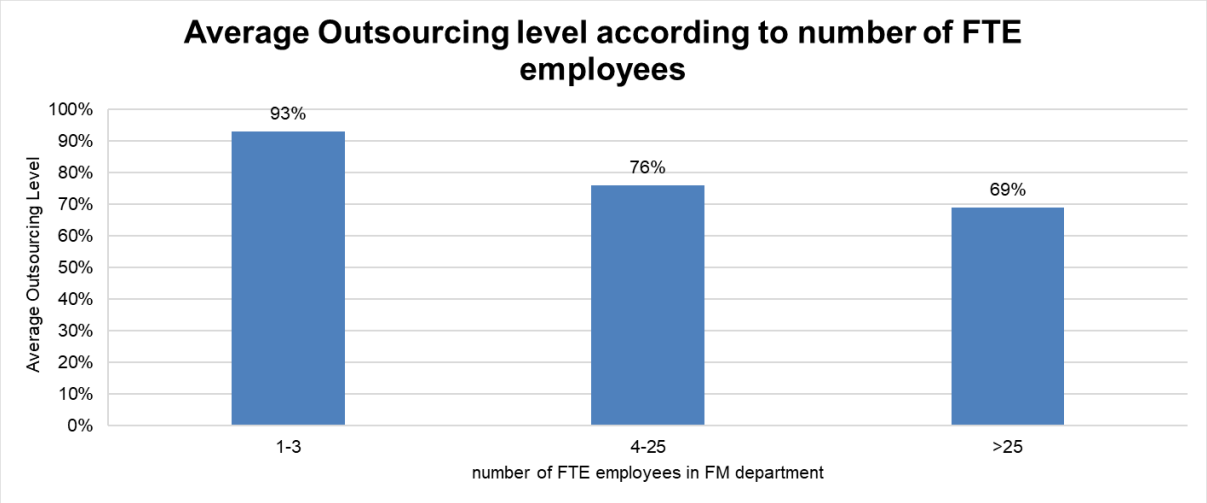

Fig. 50: Average Outsourcing level according to number of FTE employees in Spain 2019

Most of the respondents are ranked in the central range (4-25 employees). Only 5 cases are considered a small department (1-3 employees) and 4 as large departments (> 25 employees).

These charts, when combined, can give a first idea of how the department size affects their outsourcing strategy. Small departments (1-3 employees) tend to subcontract most of the services (93%). As the size increases (number of workers), the level of subcontracting decreases. The FM departments with more than 25 employees subcontract only 69% of their services on average.

Regarding the type of subcontracted services, the most demanded in Spain in 2019 (See Fig. 51) are cleaning and maintenance, which exceed 85% of cases. Therefore, two of the key activities that the FM department manage are usually outsourced to third parties. Not so in the case of energy management (a much more recent field to be seen as an outsourcing opportunity) which currently is only outsourced in 38% the cases.

Other services in demand are postal service, catering, security or waste disposal, of which there is a large subcontracting market.

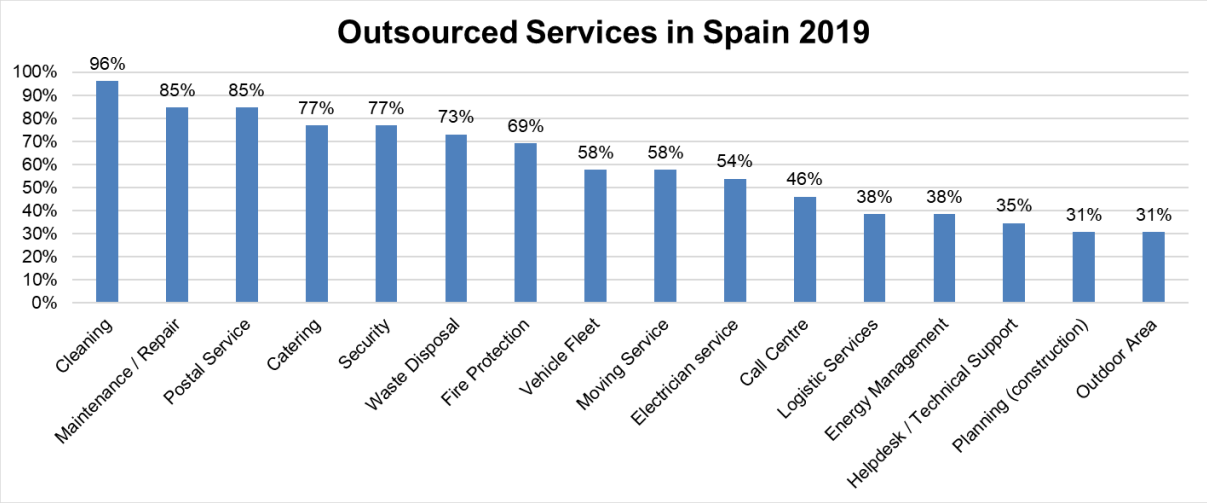

Fig. 51: Most frequent outsourced services in Spain 2019

When compared with the previous studies (See Fig. 52), *cleaning, maintenance, postal service, catering* and *security* remain the most outsourced services during the whole period studied.

There is an increase in the outsourcing of the remarkable *vehicle fleet*, at the same time as the concierge services decreases in the last years.

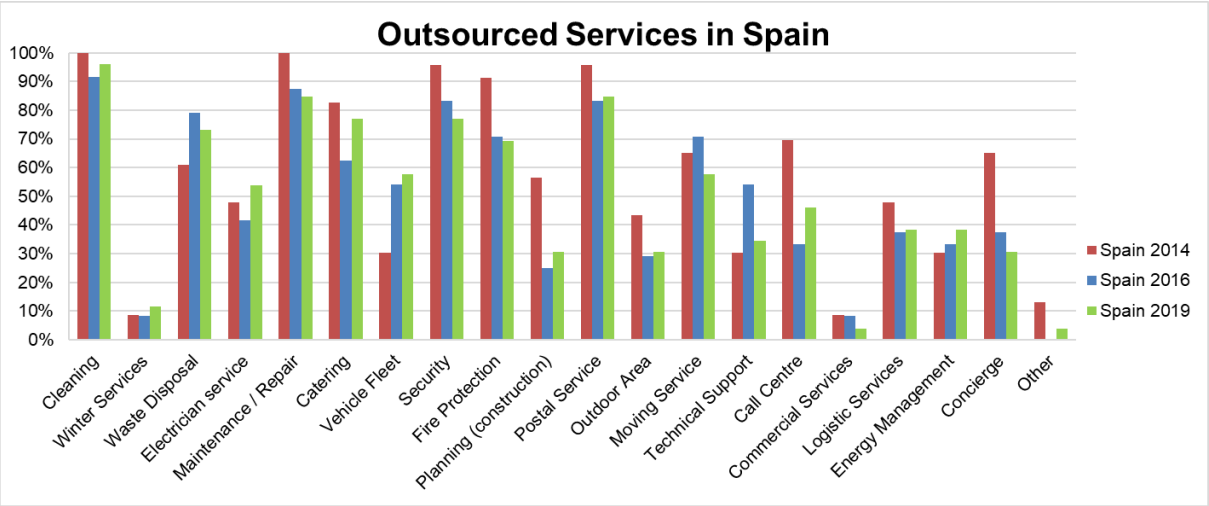

Fig. 52: Evolution of most frequent outsourced services in Spain

The most notable changes have been the decrease in the outsourcing level of the concierge service and the increase in the case of the vehicle fleet.

By studying the type of contracts and their duration, relevant information can be extracted. The data have been divided according to whether the contracted service is infrastructural or technical (See Fig. 53). Even so, there is a very relevant trend in the Spanish market in the use of service contracts in both cases, exceeding 80% in both cases. This trend continues during the last years.

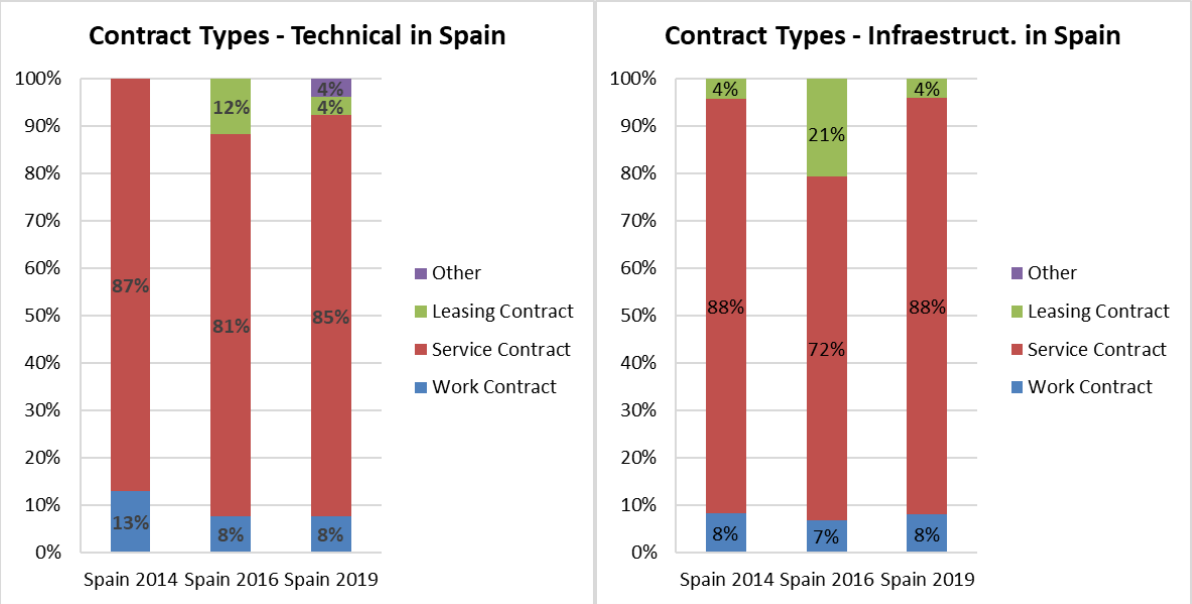

Fig. 53: Evolution of contract types (Technical and Infrastructural) in Spain

This fact will be analysed in depth when comparing the data with that of the rest of Europe.

Analysing the duration of the contracts (See Fig. 54), approximately 75% of them lasts 4 years or less, regardless of what nature it is or what activities it represents. Statistics indicate that, although slightly, infrastructure contracts last longer than technical contracts.

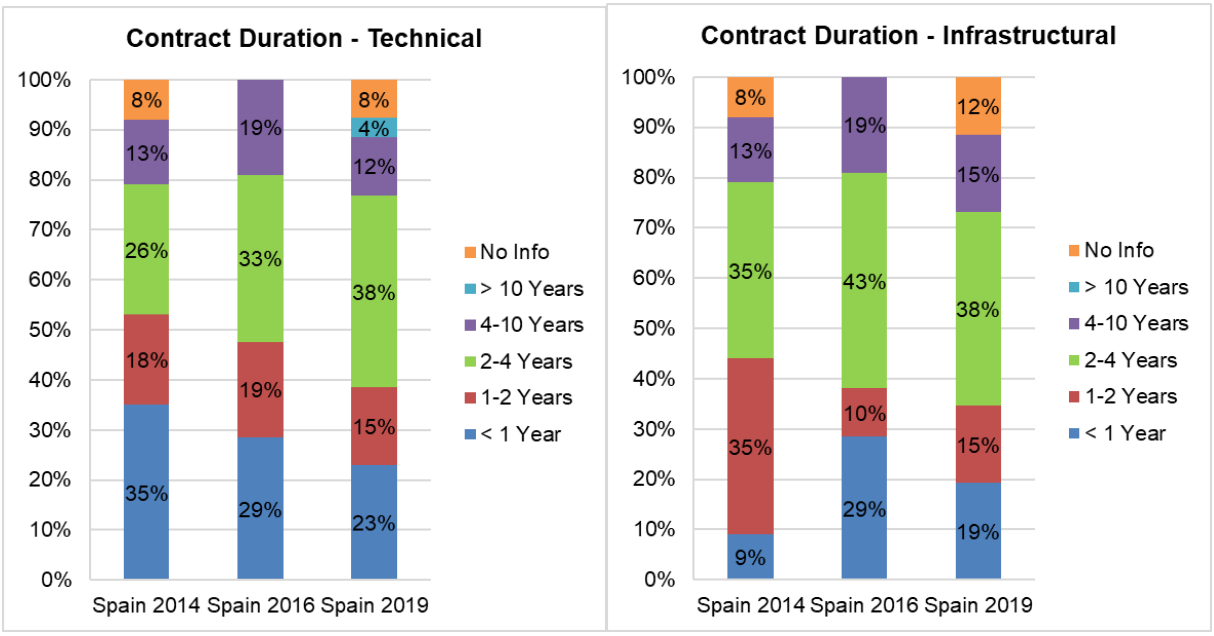

Fig. 54: Evolution of contract duration (Technical and Infrastructural) in Spain

The most common fringe is usually 2 to 4 years. Contracts under 2 years are progressively decreasing due to the new trend of signing longer collaborations with suppliers to generate synergies and added value opportunities. Even so, contracts with more than 10 years duration are not common in Spain, probably because they increase the rigidity of the company too much.

When asking the surveyed facility managers about the most relevant criteria for selecting suppliers (See Fig. 55), the most commons are *quality* and *value for money*. The third position is for the price, which is still considered a relevant criterion for 84% of the sample.

The least relevant criteria (less than 50%) are *impression* and *previous collaborations*. Even so, these two factors have increased their values compared to studies.

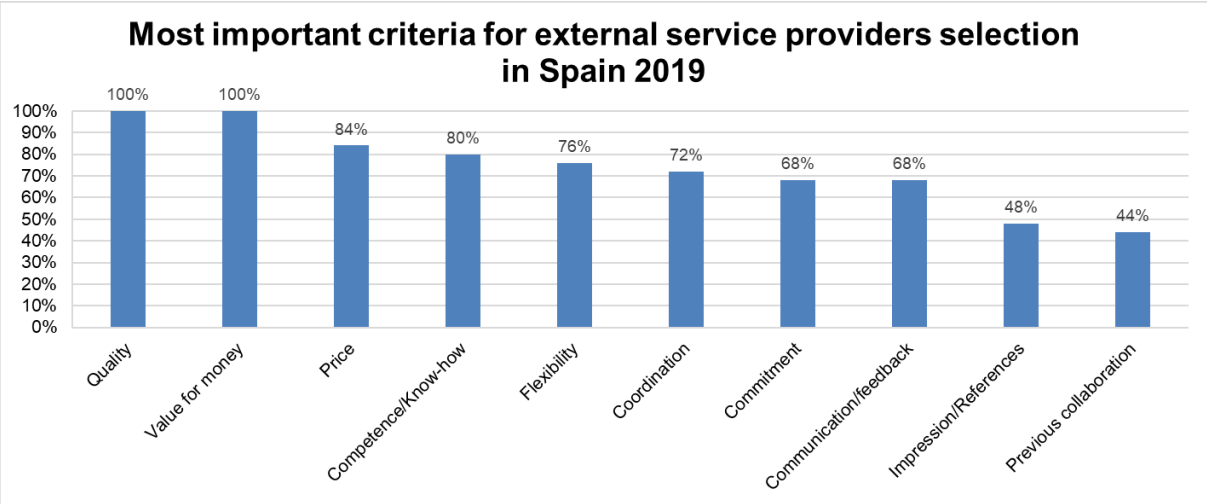

Fig. 55: Most important criteria for external service providers selection in Spain 2019

Comparing the 2019 data with the 2016 data (there are no 2014 data in the database), important changes are observed in the selected criteria (See Fig. 56). The most noted variations are the decrease in *price* as a relevant criterion the increase in *value for money* (from 35% to 64%) and, also the growth in *quality* criteria.

With only two data groups, it is difficult to generate a clear evolution, but the key changes discussed above show the growing interest in suppliers that are not only competitive in the price, but also in other key aspects of the relationship. *Commitment* and *coordination* have grown substantially and currently 48% and 40% of the respondents, respectively, consider them to be very prominent criteria. The rise of these two criteria can be related to the previous data of the increase in the duration of contracts with suppliers.

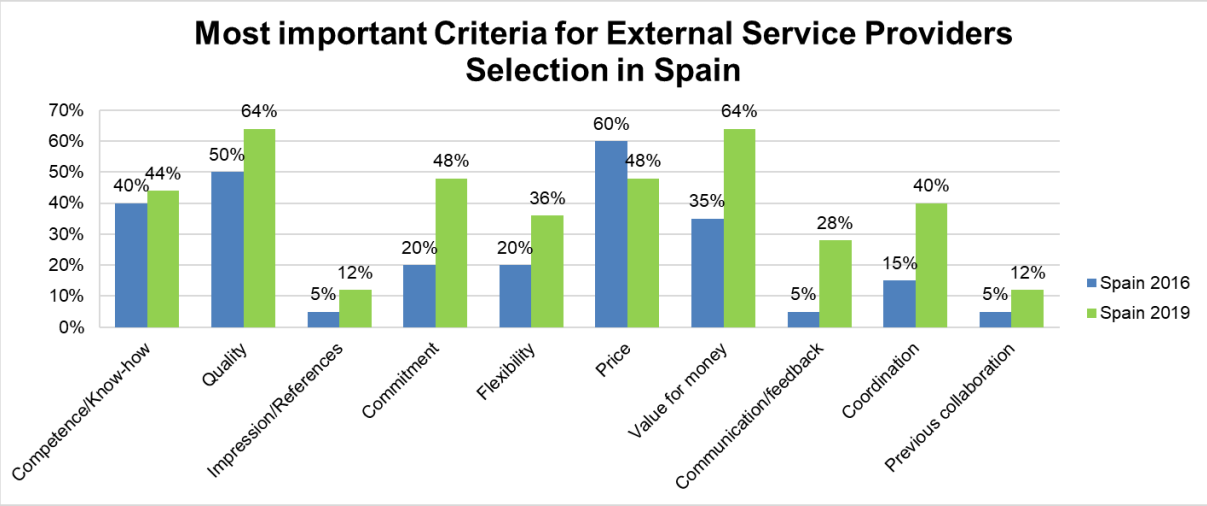

Fig. 56: Evolution of most important criteria for external service providers in Spain

4.1.4 IT Support

In this section, the FM department's use of Computer-Aided Facility Management (CAFM) and Enterprise Resource Planning (ERP) software will be analysed.

In the first set of questions, the usage in Spanish companies and their satisfaction with CAFM software is evaluated (See Fig. 57). The data reveals that the usage of this type of programs is not too common in the Spanish FM departments since only 43% of the participants claim to use it. If compared with previous results, no usage trend can be extracted in recent years.

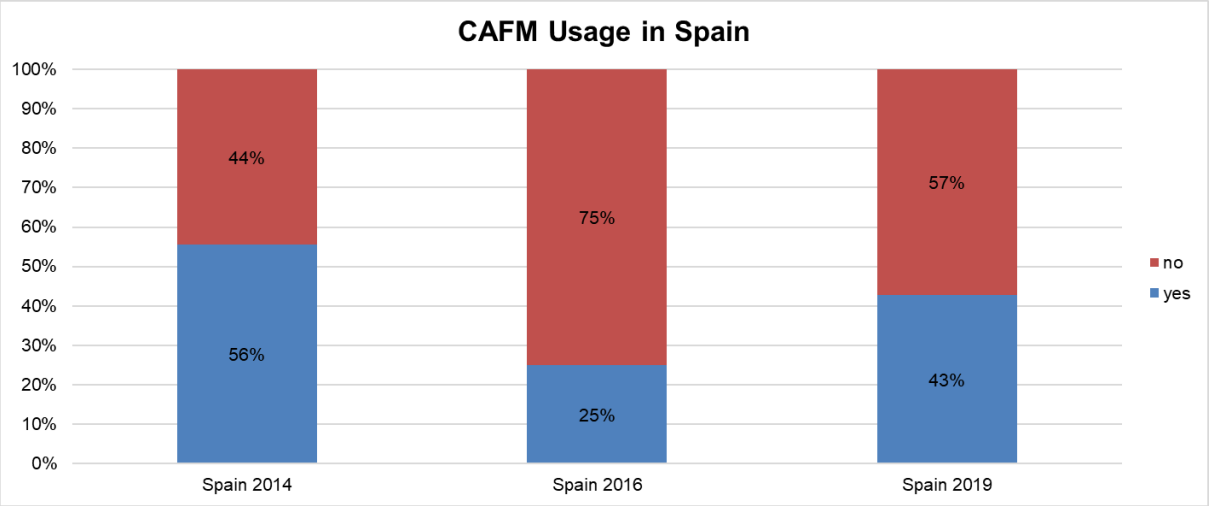

Fig. 57: Evolution of CAFM usage in Spain

Studying only the companies that do use CAFM, 22% uses self-developed software, while the rest uses commercial programs, with Service One and TRIRIGA (22% each one) being the most used. The rest of the cases are fewer known programs.

Regarding the satisfaction degree of the functioning of CAFM software, a clear trend in 2019 does not exist, leaving equally satisfied than dissatisfied with its use. The average score is 3,75 out of 5.

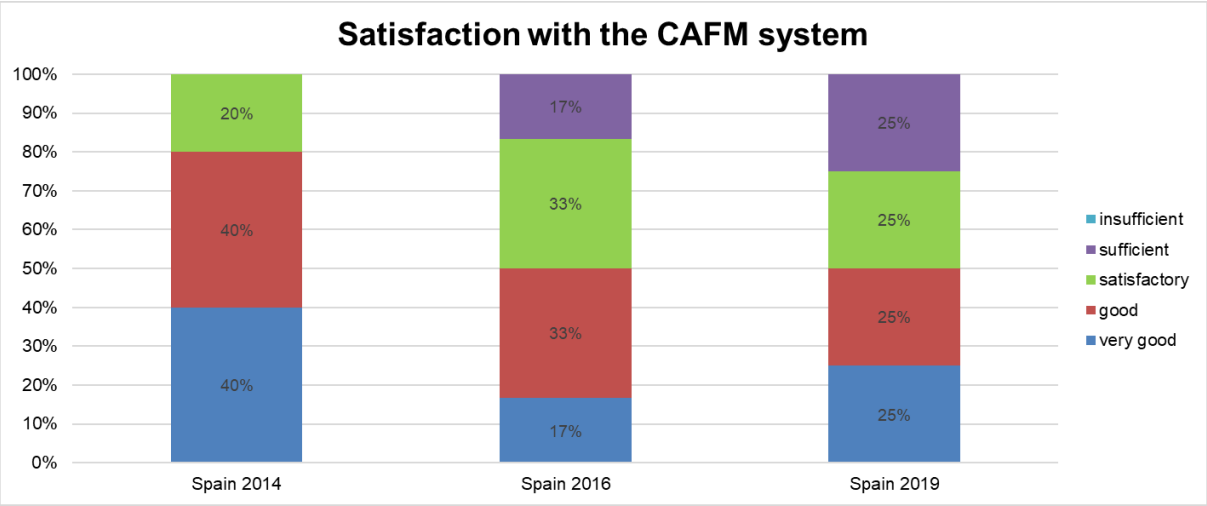

Fig. 58: Evolution of satisfaction with the CAFM system

If the sections covered by the CAFM are studied in the used cases (See Fig. 59), it is observed that the maintenance the most common section covered by the software. Other managed aspects with this type of software are *cleaning, inventory, space management* or *cost accounting*. The rest is below 40% and there is no service that stands out in particular.

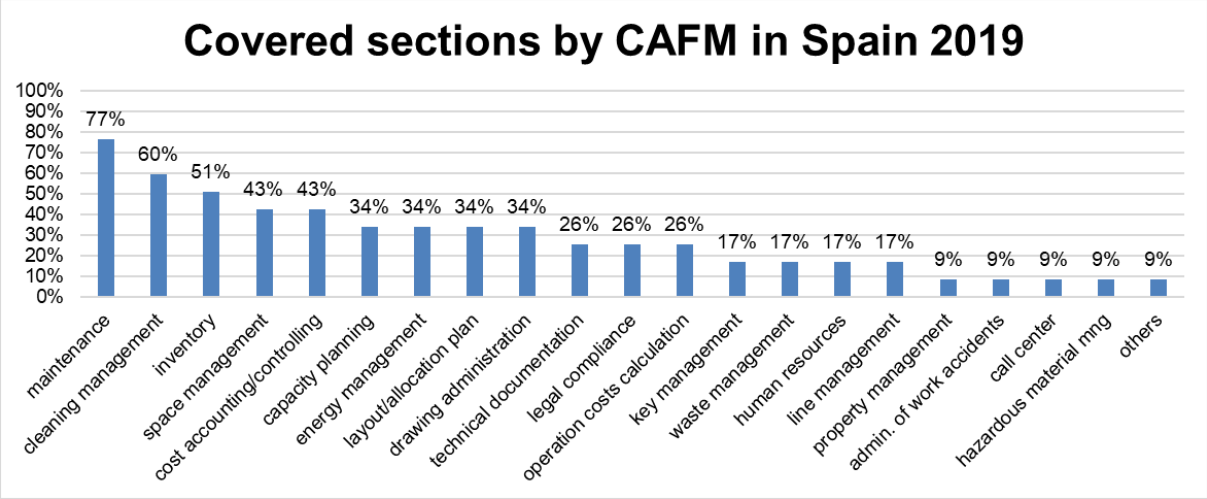

Fig. 59: Most frequent covered sections by CAFM in Spain 2019

In the case of ERP software, its usage is much more common in Spain compared to CAFM (See Fig. 60). Even so, it is surprising looking at the evolution of recent years, that in 2019 the level of use has decreased up to 20%. In times of the 4.0 revolution and Internet of Things, it is surprising this declining in the use of a tool that in a yearly basis becomes more powerful and more likely to manage almost the entire company.

A possible reason for this decrease may be that the ERP software is managed by another department, and is outside the functions of the facility manager.

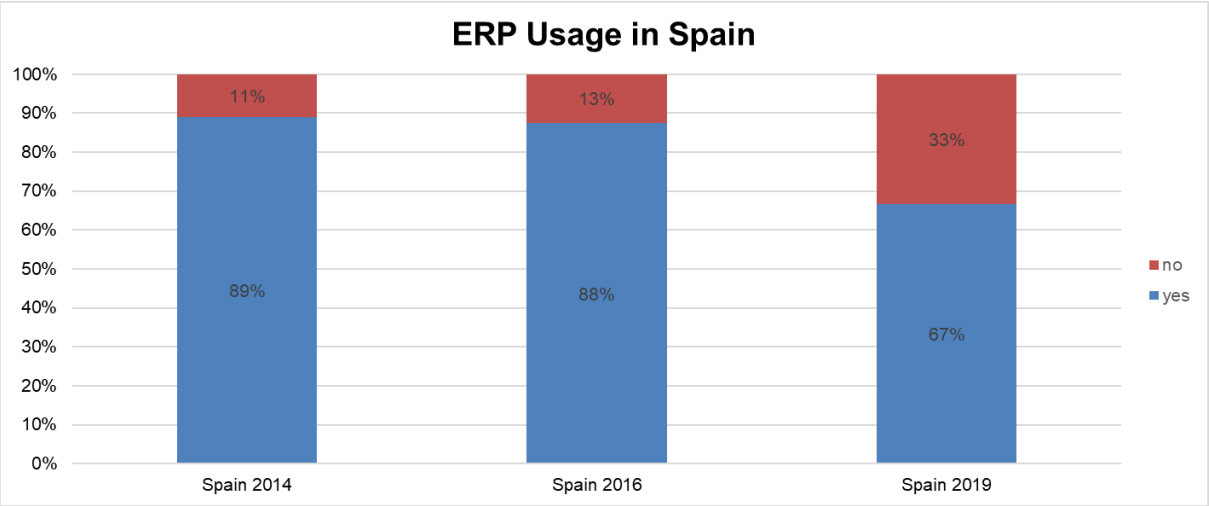

Fig. 60: Evolution of ERP usage in Spain

Also comparing the degree of user satisfaction with the ERP functioning (See Fig. 61), there is a clear decrease compared to 2016. These facts will be compared in a European framework to draw more conclusions later.

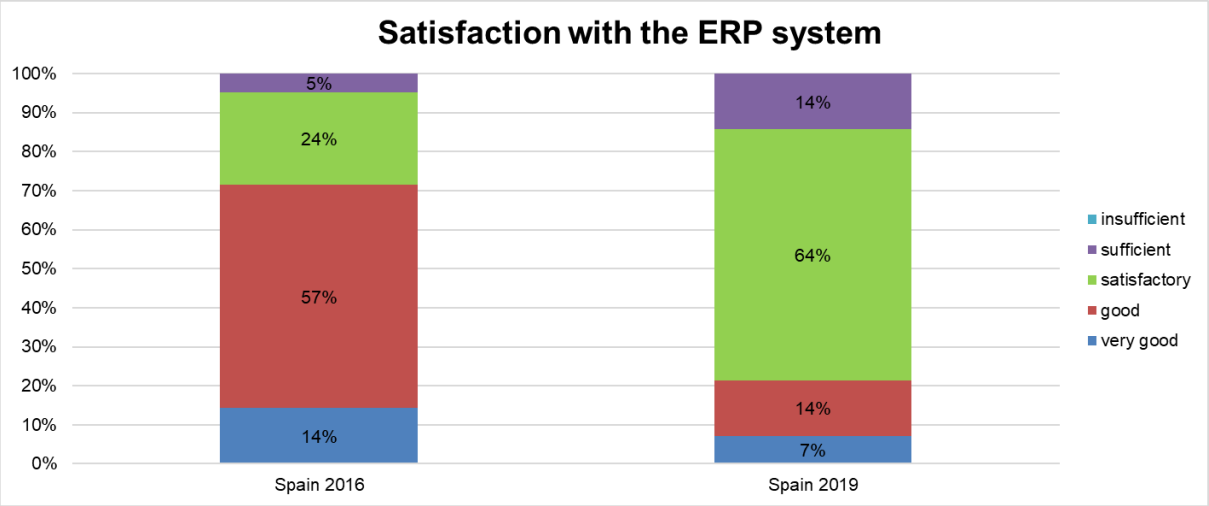

Fig. 61: Evolution of satisfaction degree with the ERP system

Of the total number of respondents, 58% use the SAP software (54% in the R/3 version and the rest Bussiness One), demonstrating that exists a great predominance of the company in the Spanish market. In 4% of cases, Oracle is used. There have been no cases of using Dynamics NAV or BAAN software in this survey (See Fig. 62).

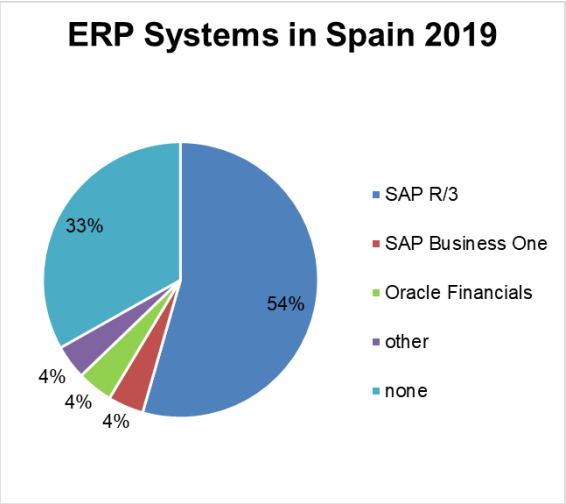

Fig. 62: Most frequent ERP systems in Spain 2019

This type of software, although its transversal nature, is usually related to the financial management of the company. When reviewing the sections covered in Spain by the ERP, this fact can be confirmed (financial accounting, costing, cost accounting) (See Fig. 63).

However, the following sections also show the transversality of the program in the company: 64% of the sample uses the ERP to cover the human resources section, while 59% use it for inventory management, much more related to the core of the company.

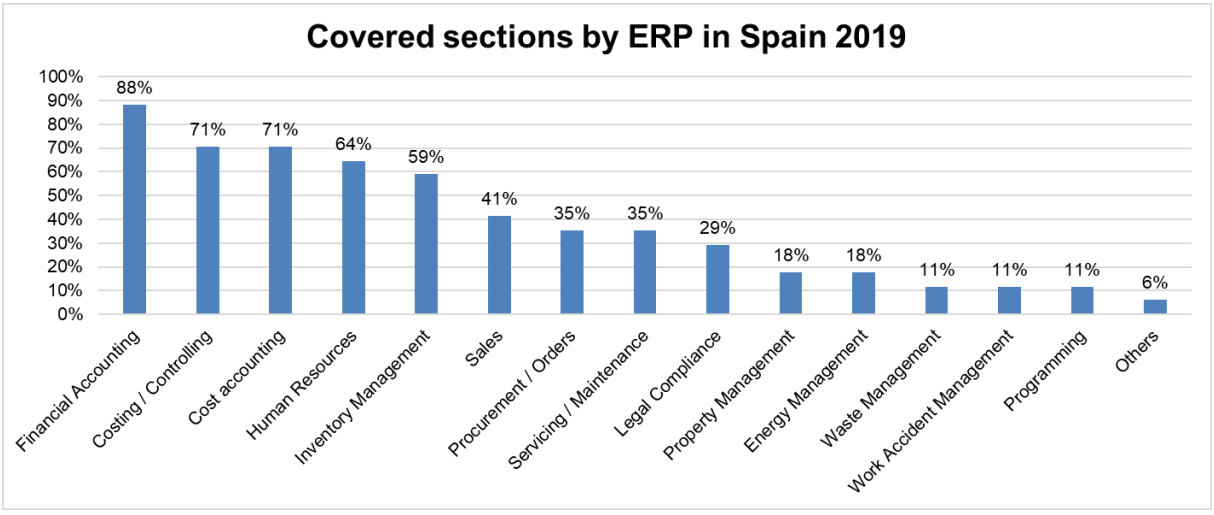

Fig. 63: Most frequent covered sections by ERP in Spain 2019

The trend of using ERP software during the last years in Spain usually follows a general pattern in broad strokes. The following chart (See Fig. 64) shows that financial

management is a priority in all the studies carried out. Some possible sections have been added or eliminated in the 2019 study, that explains the null percentages.

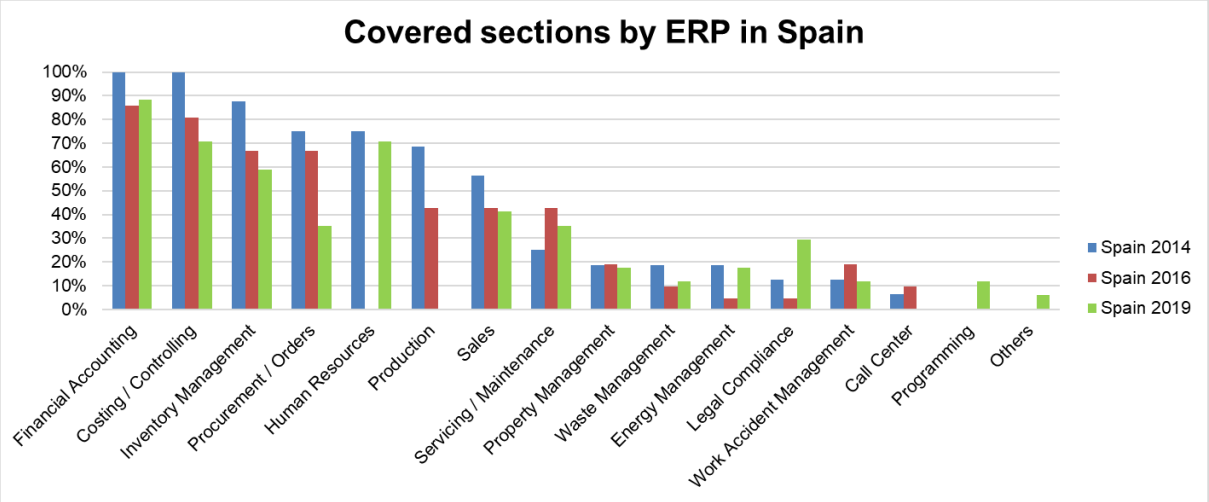

Fig. 64: Evolution of covered sections by ERP in Spain

4.1.5 New Ways of Working in FM

The wave of industry 4.0 is not only affecting the field of IT support; everyday new and innovative concepts of work in offices are appearing to improve the performance and creativity of workers or reduce all kinds of costs.

In this study, it has been decided to add a series of questions about the so-called New Ways of Working (NWW), its implementation in Spain and its performance.

The first graph (See Fig. 65) shows the most frequent NWW used in Spain in 2019. The high use of open office spaces over the rest is noteworthy (92% of the sample implements it).

This resource is commonly understood in Spain as the elimination of cubicles in offices. This concept also can be understood as something more complex such as large non-individual desks and open meeting areas to generate better collaboration among employees. It also avoids closed personal offices and closed meeting rooms. [28]

The home office is a well-known resource and a lot of companies are beginning to implement it in Spain (54%). In this case, always with certain limitations and adapting to the type of work that is carried out by the employee. Other resources used are project rooms or shared desks.

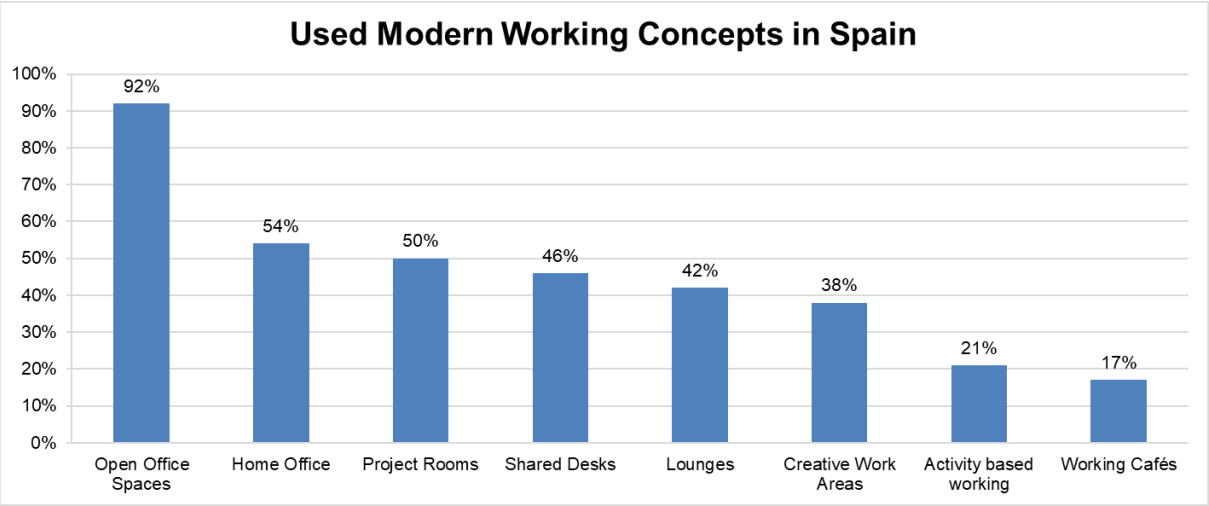

Fig. 65: Most frequent used modern working concepts in Spain

Analysing more deeply the measure of shared desks, the companies that implement it only perform it on 22% of its workforce on average. Therefore, it is a measure that still has a long way in the Spanish market.

The NWW studied in this field are designed to increase the productivity and the creativity of employees [29]. The research pretends to find out if these new measures also imply an increase in the consumption of resources (such as costs, personnel, energy, etc.)

Regarding the efficiency of these new ways of working, which a priori increase the productivity and creativity of the employees [29], it has been studied if they force to increase resources consumption (such as costs, personnel, energy, etc.) than before applying them.

According to the respondents, in 68% of cases, there is no greater consumption of additional resources and therefore the improvement in productivity does not imply a cost increase. However, in the remaining 32%, exists an additional consumption of at least some type of resources. Within this group, 71% reports that it is due to the *increased frequency of maintenance cleaning*, 43% says it is due to *hygienic measures* and another 43% due to the *increase in basic cleaning*. Thus, all consumable increases are related to cleaning (See Fig. 66).

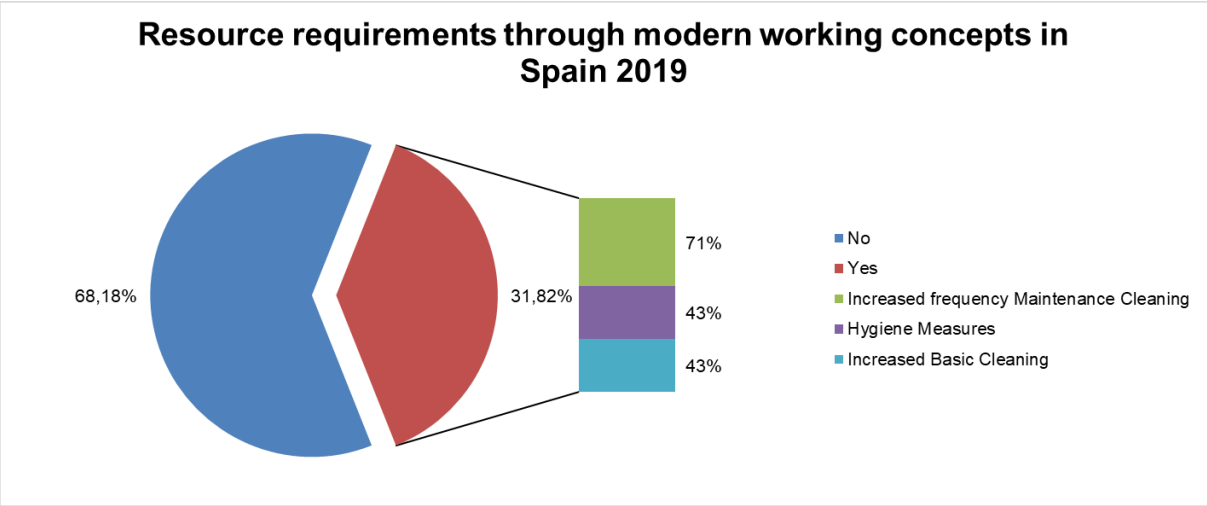

Fig. 66: Resource requirements through modern working concepts in Spain 2019

4.2 Spanish FM Market compared with European Tends

In this chapter, we compare the results of the current Spanish FM market with the most current data from different European countries such as Austria, Germany, Switzerland, Turkey or Bulgaria in order to draw conclusions from the state of the Spanish FM market in a European framework.

According to the development of the country in general and the business management market, Spain is expected to be in an intermediate position between the German-speaking countries and the rest (Turkey and Bulgaria) in the level of development of the FM market.

4.2.1 Organization

The first data extracted from the surveys are the percentages of companies that have an FM department in their organization. In the following chart (See Fig. 67), it can be seen how Spain has a high percentage of companies with FM department in its organization chart, at the same level as the Austria, Germany and Switzerland outcomes; even higher in the results of 2019. These data indicate that the FM is a practice in Spain comparable with the German-speaking countries, usual pioneers in the management and organization of companies.

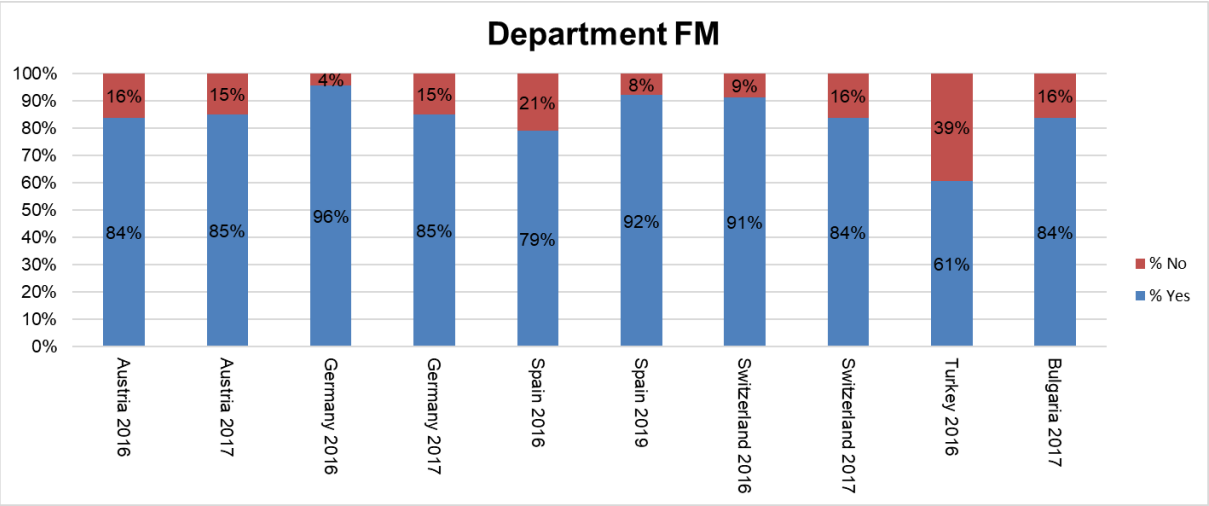

Fig. 67: Percentage of companies with Fm department in their organization

In the case of the number of FTE employees in the FM department (size of the department), it was observed that in Spain the 11 to 50 employees predominate. It is common in the most developed European countries find departments with less than 50 FTE employees. It can be seen in the graph (See Fig. 68) that in Turkey and Bulgaria more than 70% of companies have an FM department of fewer than ten people, thus devoting fewer resources on average than the rest of Europe.

In Germany (the most pioneering country in the FM [12] and the one with the largest companies of the respondents) a tendency to the disappearance of the departments of one or two people and the appearance of larger departments (33% of the cases) can be observed. Spain is still far from this trend.

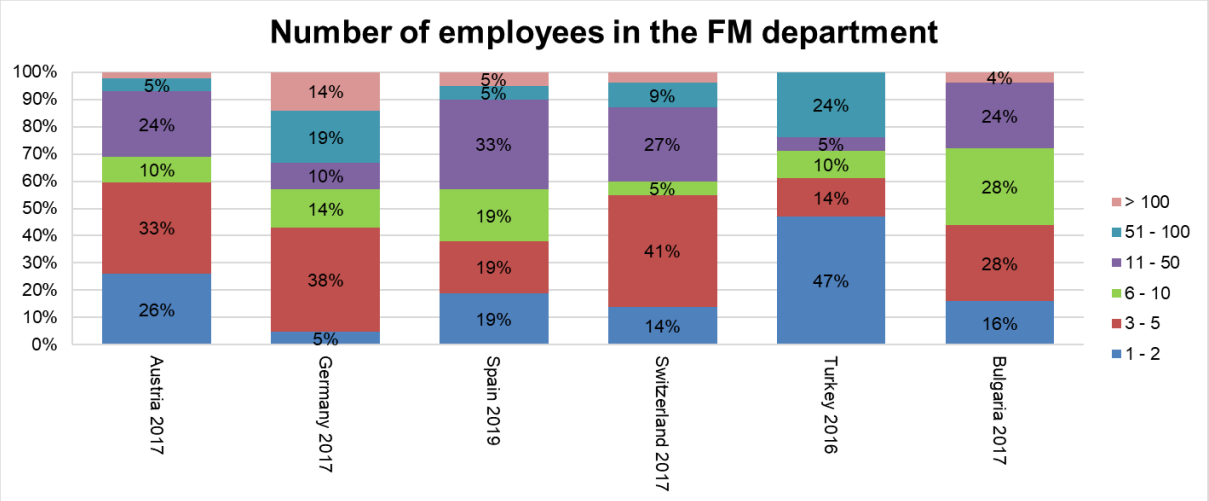

Fig. 68: Percentage of number of employees in the FM department

In the organizational integration field (See Fig. 69), Spain has a totally different behaviour to the German-speaking countries. While in any study of these countries has

exceeded 30% of companies that place the FM department in staff function, in Spain the last two studies exceed 60%. This behaviour is similar to those of Bulgaria and Turkey explicitly. This fact indicates that the trend in Spain is to consider the FM department as a support or advisory sector for the rest of the departments in the organization chart. In contrast, in more developed European countries, approximately 50% of companies consider the department part of the 2nd level line function.

A curious tend in Spain, Turkey and Bulgaria is the lower number of cases that place the department below these two options compared to the rest of the countries.

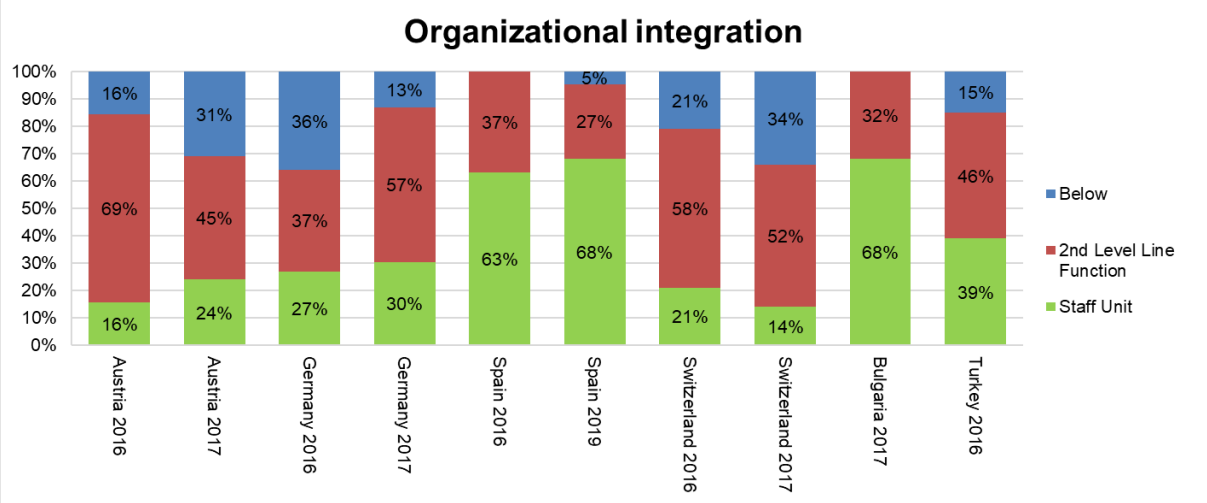

Fig. 69: Organizational integration in FM departments

In the question of the description of processes (See Fig. 70), there are only data from German-speaking countries and Spain. All of them follow the same trend: between 80% and 90% of the cases do describe the processes in charge of the FM department. The case of Spain 2019, without any negative response, is probably due to the sample size and the margin of error and can be considered within the European trend.

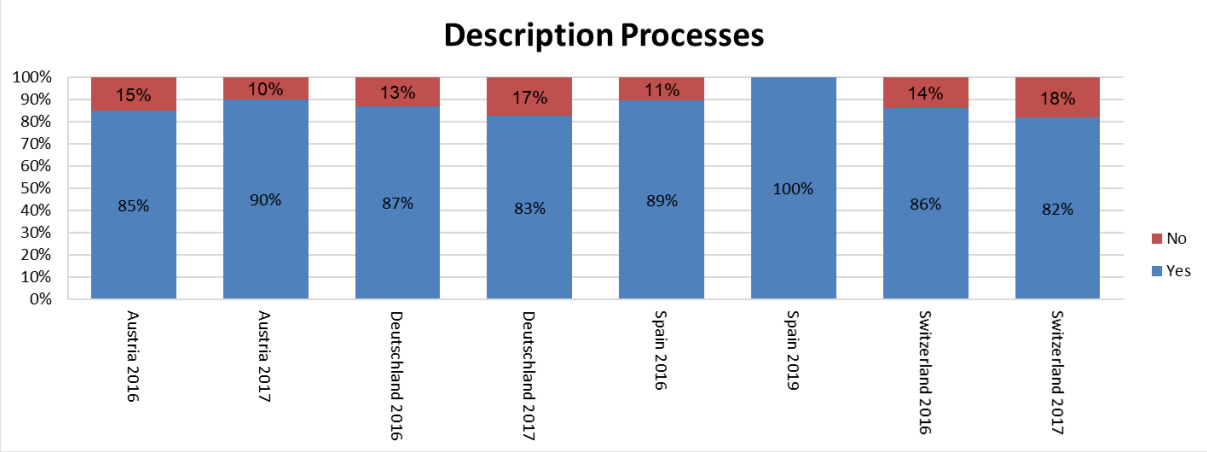

Fig. 70: Description processes in FM department

If the objectives and strategies of the study carried out in a European context are observed after normalizing the data of the remaining countries, some ideas can be extracted (See Fig. 71). Firstly, the results of the study of Spain 2019 give almost the same relative importance to the major part of all the objectives (none diminishes of 70%) in comparison with Germany, for example, where values close to 30% exist. This fact, therefore, indicates a much-focused selection of priorities than in the Spanish market. The most outstanding results in Germany are *cost reduction* and *value retention*.

It can be also detected a trend at European level on the four most important objectives: *cost reduction, quality assurance, value retention* and *cost transparency*. These are strategies focused on the global nature of the company. Other objectives like *increase of service* or *proper production process* (centred more on the line function) are less frequent.

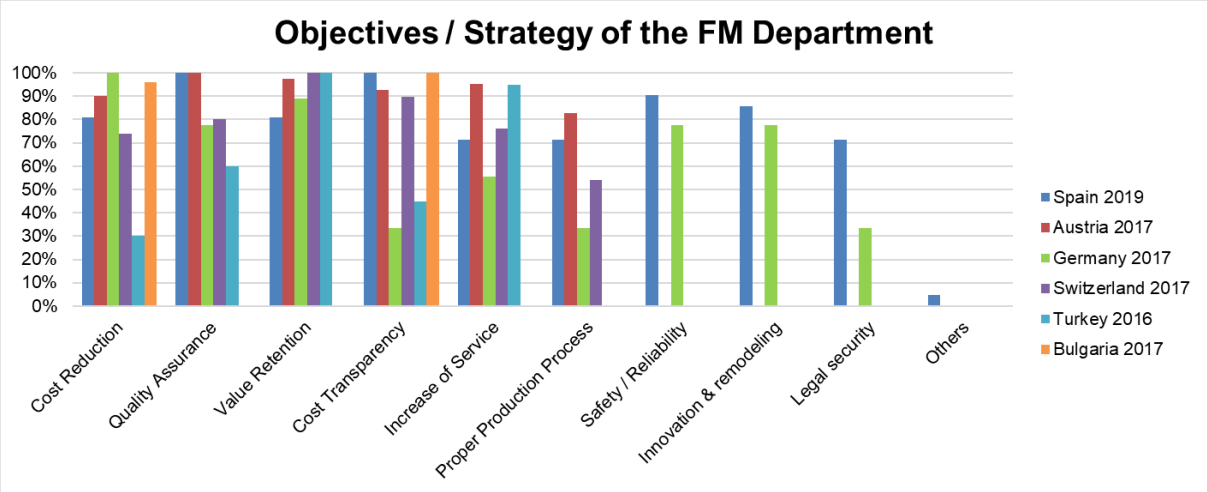

Fig. 71: Most frequent objectives/strategies of the FM department in Europe

Some possible answers to the surveyed question were added in Germany 2017 and Spain 2019 studies. Because of that, there are some strategies with only the values of these studies. The high outcomes in them reflect the relevance of this strategies.

About the cost drivers at the European level (See Fig. 72), it can be detected obvious and interesting results. The first of all is the existence of a similar trend between the Spanish and Turkish outcomes, with cost drivers' frequencies uncommonly high and differentiated from the German-speaking countries. The most significant case is about the energy costs, a cost driver with an approximate frequency of 10% in Austria,

Germany and Switzerland, while in Spain and Turkey it exceeds 40%, reaching 69% in Spain 2019.

Other cost drivers follow the same pattern but less emphasized, such as *maintenance, cleaning* or *staff*. However, in other fields such as *high-security measures, new software* or *digital planning* where the countries of central Europe have high results, those in Spain are either low or barely inexistent.

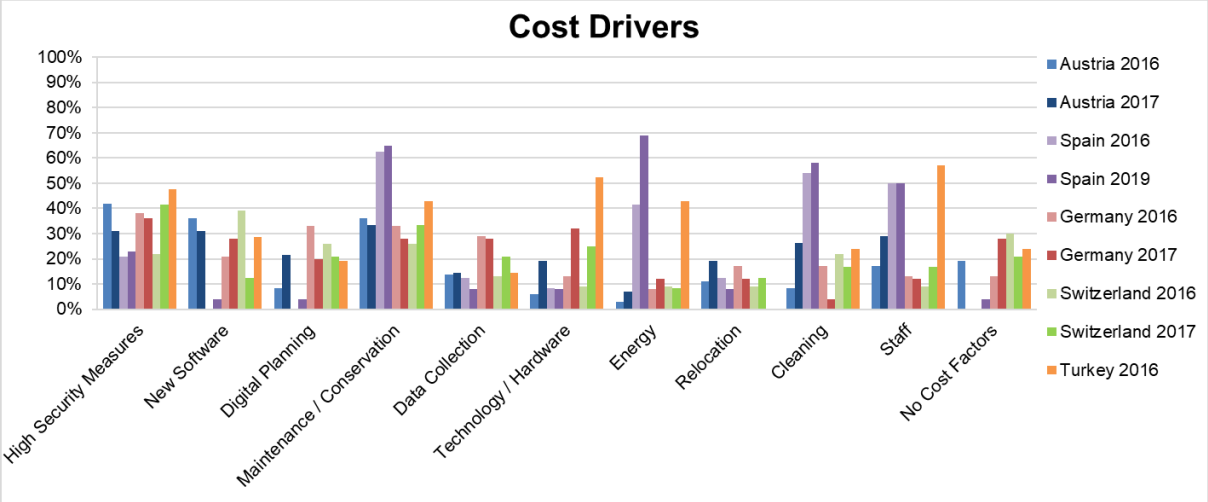

Fig. 72: Most frequent cost drivers in the European FM market

The data reveal an excess of basic cost centres in the FM Spanish market and the absence of costs in more complex fields determine that the Spanish market is not as mature as the German-speaking countries.

About the savings achieved data (See Fig. 73), a certain similarity can be observed between the whole results. It can be observed that in the field of energy is where savings are achieved more frequently. Cleaning and Staff have similar results, even so, cleaning shows a higher average.

It is necessary to emphasize the good results of the average of Switzerland. For its part, the Spanish outcomes remain average.

Fig. 73: Most frequent cost saving fields in Europe

About the measures applied to achieve savings, European countries seem to have a similar trend, and Spain usually follows these characteristics (See Fig. 74).

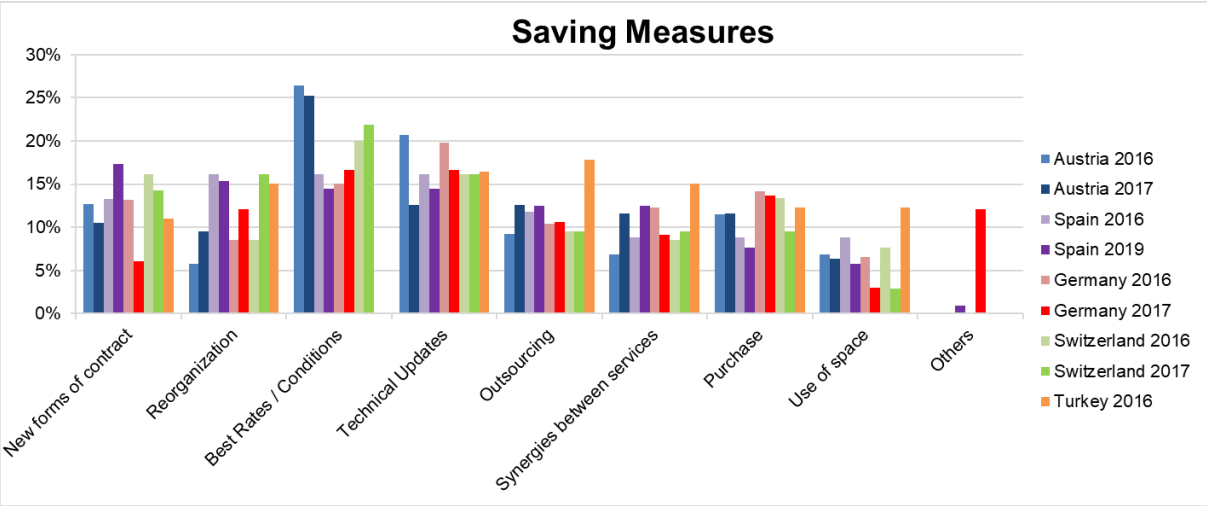

Fig. 74: Most frequent saving measures in Europe

Even so, there are small divergences between the behaviour of the German-speaking countries and Spain: as mentioned above, the most used measures to achieve savings in Spain are *new forms of contract* and *reorganization*, while in the European trend the most relevant are *best rates* and *technical updates*. In any case, in Spain, these last two measures are around 15% of frequency, a result close to the most used in the country. In the other measures (outsourcing, synergies, purchase and use of space), the outcomes are quite similar, and their usage is reduced to the same level of the Spanish market, never exceeding 10% of cases.

It should be noted that the results of the Turkish FM market do diverge from the European trend, with out-sourcing being the most used measure, for example.

When analysing the most common measures to increase productivity (See Fig. 75), a difficulty appears. This graph is affected by the modification of the question style that has been made in the questionnaire of the Spanish 2019 study. The change from a closed answer to open response makes the current results of Spain are biased compared with the rest due to new measures proposed by respondents, such as outsourcing (best rated for Spanish facility managers, e.g.). All this information has been treated in the analysis of the evolution of the Spanish market.

Despite it, it is possible to corroborate the clear similarity between the Central Europe (Austria, Germany and Switzerland) outcomes and to affirm that in Europe the most used measures to generate productivity improvements are process optimization, synergies between services or technical improvements. Of these four relevant measures, it can be highlighted process optimization, which is also a highly used measure according to the study of Spain 2019.

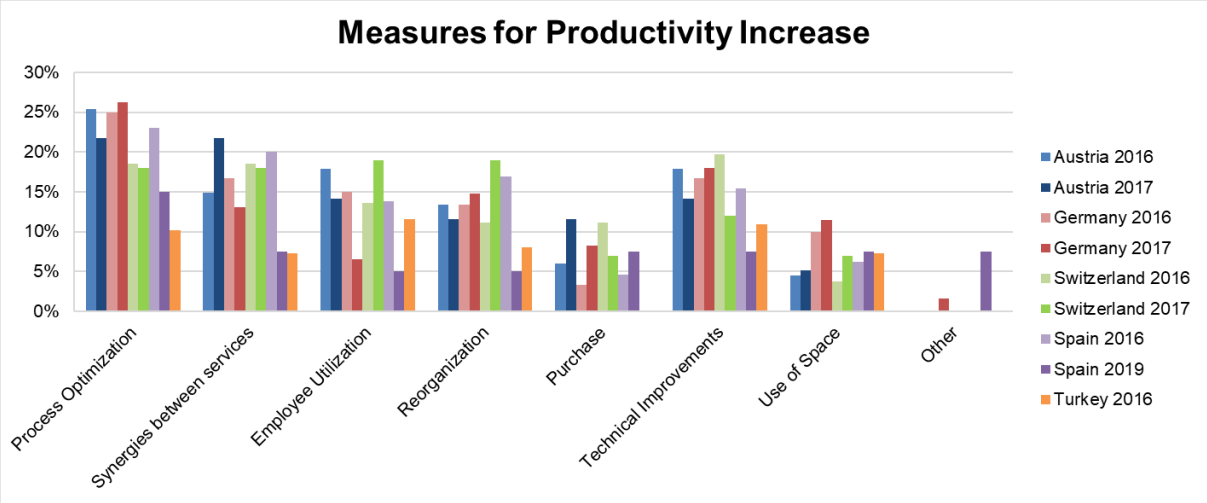

Fig. 75: Most frequent measures for productivity increase in Europe

To study the trends in the form of office building contracts in Europe can draw relevant conclusions in the Spanish framework (See Fig. 76). It was already commented that since 2014 the amount of real estate rented buildings or leased increases in Spain (62% in 2019). When analysing these data in European key, it is observed that the trend of Spain is totally contrary to the other countries studied: Spain is the only country that exceeds 50% of buildings rented as opposed to property.

This divergence from the rest of Europe is really significant and modifies in a relevant way the Spanish FM market because by not having the office building, the will to

improve the non-owned workplace can be reduced and affect the powers of the FM department.

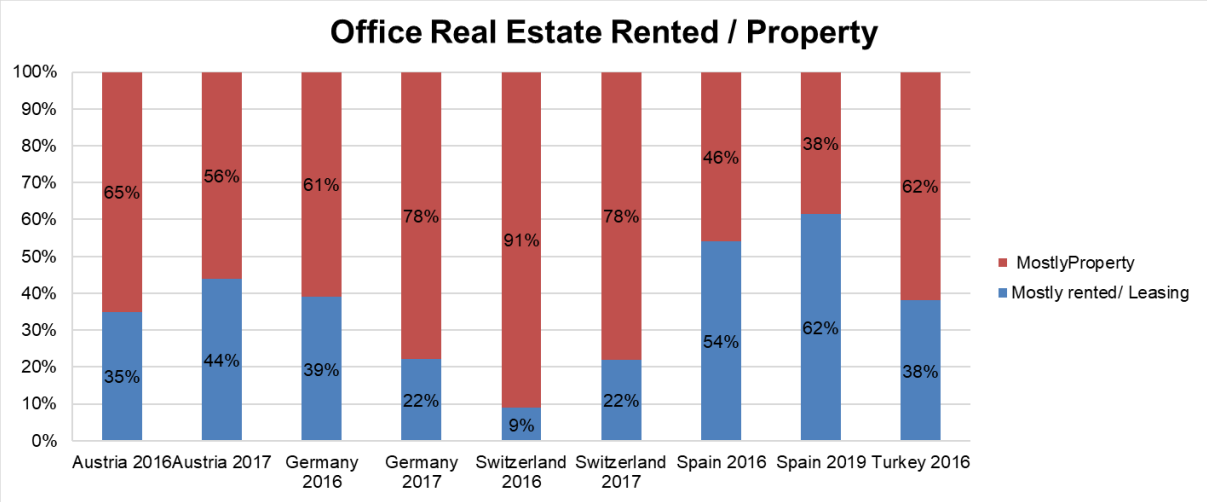

Fig. 76: Office Real Estate Rented/Property in Europe

In the count of supervised locations by the FM department (See Fig. 77), it can be observed how in Spain exists a tendency to take in charge more real estate office buildings than in the rest of Europe (almost 60% of respondents are responsible for more than 6 installations). It follows a similar pattern to Germany. In Austria, on the other hand, they usually work with fewer facilities, since 70% of the respondents are in charge of fewer than five centres.

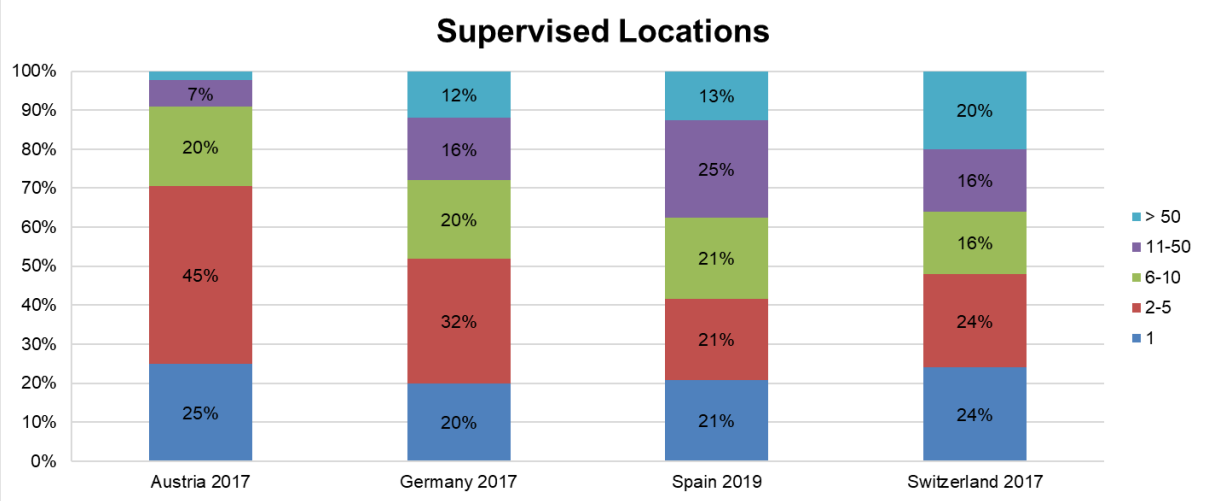

Fig. 77: Number of supervised locations by the FM department in Europe

4.2.2 Outsourcing

This section tries to understand how companies across Europe manage outsourced services and looks for trends and correlations with other aspects that identify the company.

In the first graph (See Fig. 78), the number of external service providers of each study is shown. It is easy to observe that Spain, especially in 2019, and Germany differ from general European behaviour. Particularly striking is the case of Germany, as it is the pioneer country of those studied in the field of FM.

Working on the idea cited above in the study of the evolution of the Spanish market, it seems weird that, under this conception, the most advanced country moves away from the tendency to unify suppliers to generate synergies, economies of scale and greater involvement. Thus, this idea is clearly not being applied yet in the European market.

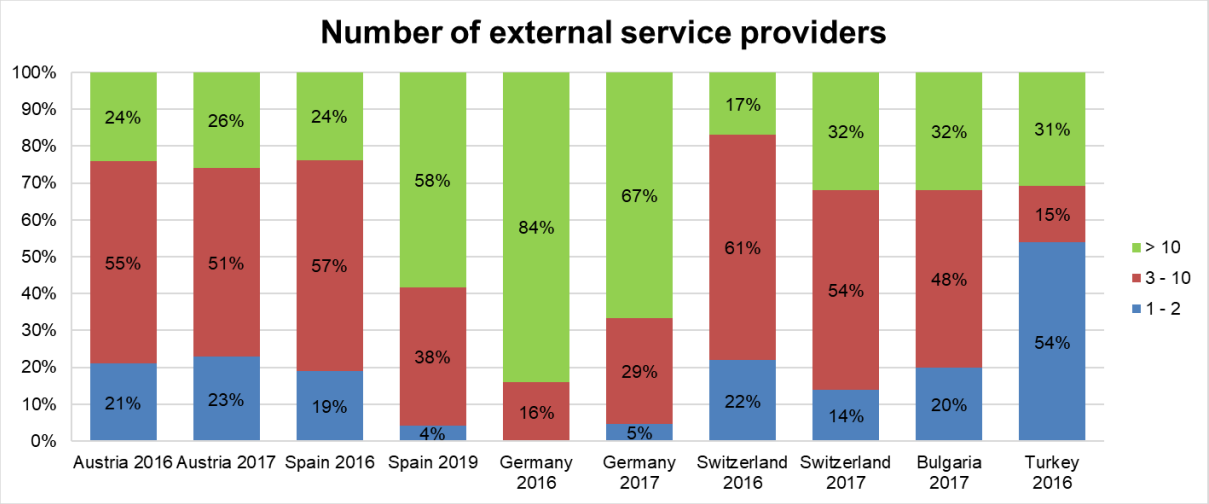

Fig. 78: Number of external service providers in Europe

To keep studying this topic, the following graph (See Fig. 79) shows the percentage of outsourced services in each country. It can be clearly observed that the cases with a large outsourcing percentage also have many suppliers (Spain and Germany, e.g.) and the opposite (Austria and Switzerland).

It can be assumed that the number of external service providers and the outsourcing level of the companies are strongly linked.

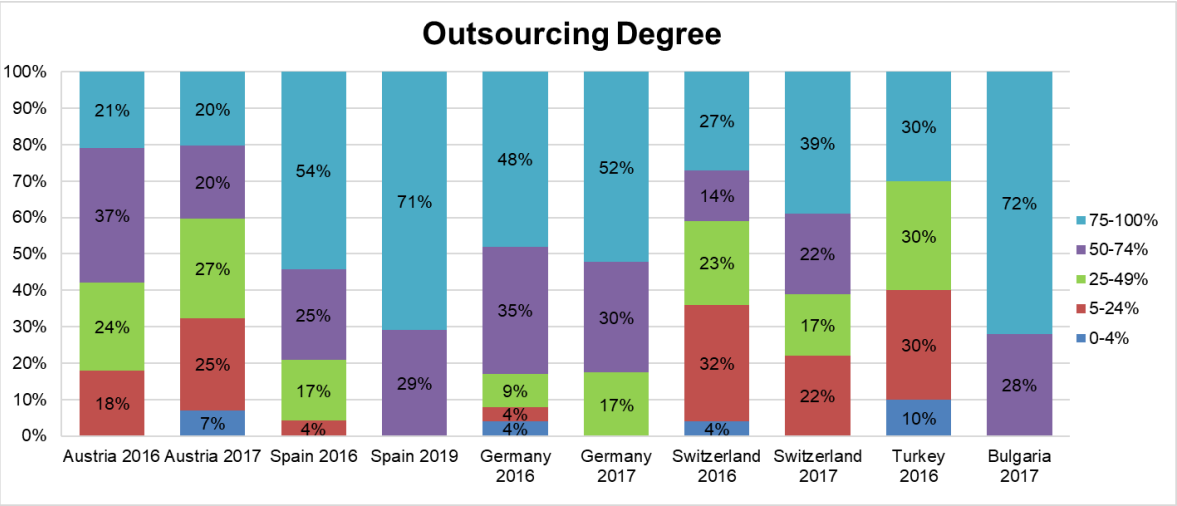

Fig. 79: Outsourcing degree in Europe

The Bulgarian case differs on the main trend, with only 32% of companies with more than 10 suppliers but at the same time, more than 72% of them subcontract three-quarters parts or more of their services.

Relating the department size (number of FTE employees) and the outsourcing degree, the Spanish data is compared to the Germany 2017 study (See Fig. 80). Both countries corroborate the studied trend: in the departments of less than 3 people, there is a high outsourcing level (82% and 93%). In the case of Germany, due to the large size of the companies (and the FM department), there are only two company data with a maximum of 3 FTE employees. Despite this, the result can be conclusive.

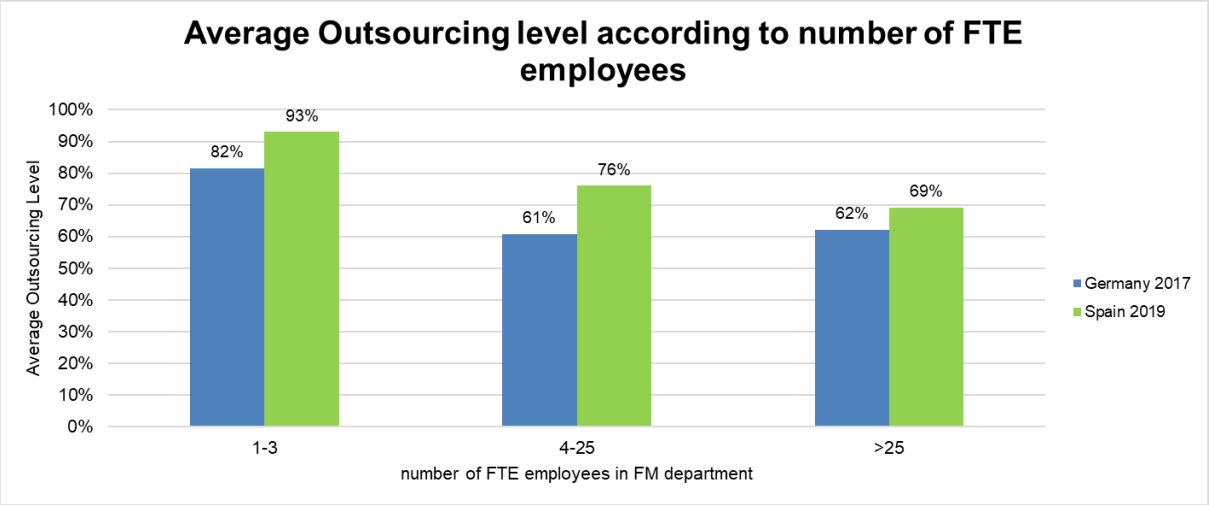

Fig. 80: Outsourcing level according to number of FTE employees

Regarding which services companies usually outsource, the following chart (See Fig. 81) presents the most recent statistics of each studied country. It is difficult to observe

trends apart from those already known, such as high outsourcing level in Bulgaria, Germany and Spain or the opposite case in Turkey.

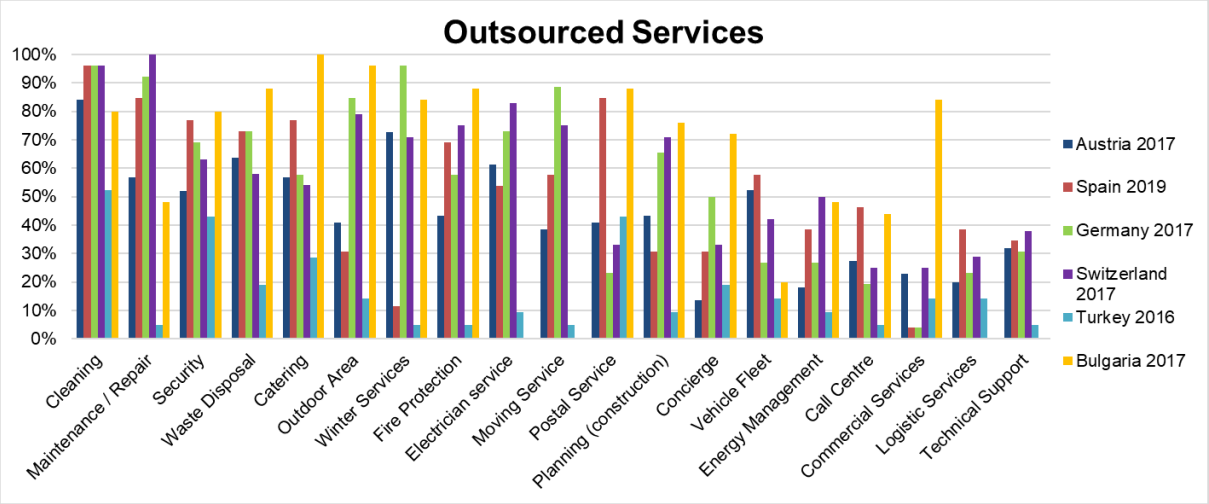

Fig. 81: Outsourced services in Europe

Some notable divergences between the Spanish outsourcing market and the rest of Europe can be found in fields such as outdoor area or winter services, possibly due to the climatic difference. The Spanish outsourcing market has a very high level in postal service compared to the rest of Europe.

To observe the average results of the outsourced services and to know which are the most common in Europe, the following graph is presented (See Fig. 82). If analysed, it is simple to verify that the most outsourced service is cleaning, followed by maintenance and security, three main pillars of the facility manager's functions. Another relevant FM sector is energy management, which, like in Spain, is not a service that is subcontracted on a regular basis (32% on average). This graph was made with the data from the countries shown in Fig. 81.

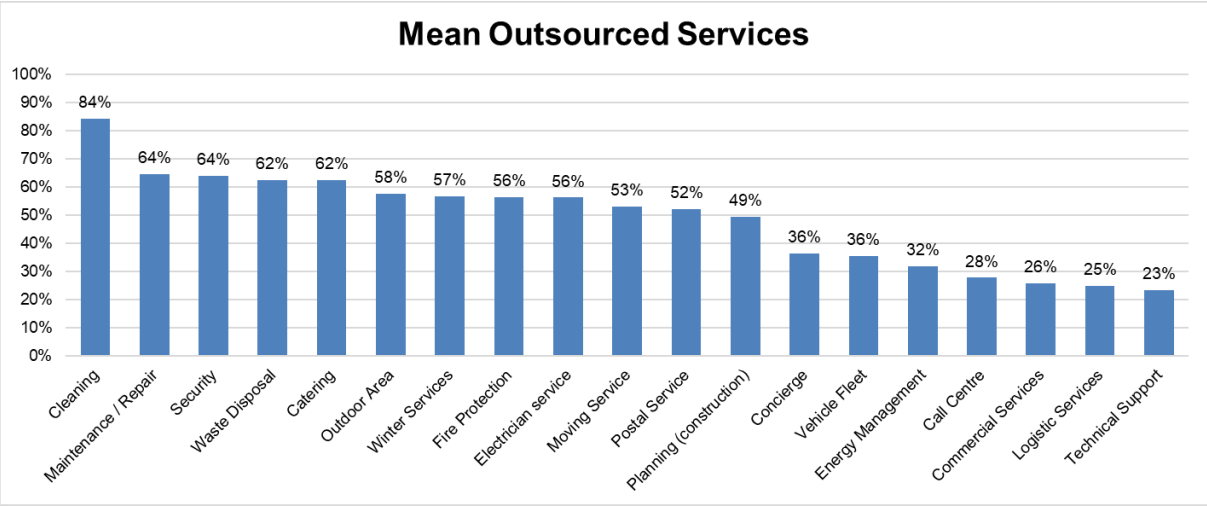

Fig. 82: Mean outsourced services in Europe (145 surveys)

Summarizing, in Spain, there is a higher subcontracting level than the European average, due to the size of the FM department. However, it follows a structure like the European trend in terms of outsourced services.

If the contract types that are made with the suppliers are studied (See Fig. 83 and Fig. 84), a great divergence can be observed between Spain and the rest of Europe. Due to this, some of the surveyed facility managers have been consulted about the concept of service contract and work contract. It allows proving that in Spain some types of concepts are understood differently than in the rest of Europe.

In Europe, it is understood that both, a service or work contract deals with the hiring of service, differ among themselves in the responsibilities of the parties. On the other hand, in Spain, the work contract option is understood as the hiring of personnel to temporary employment agencies as Adecco. Same concept can be applied by the leasing contracts. Because of this, the results are not comparable among them.

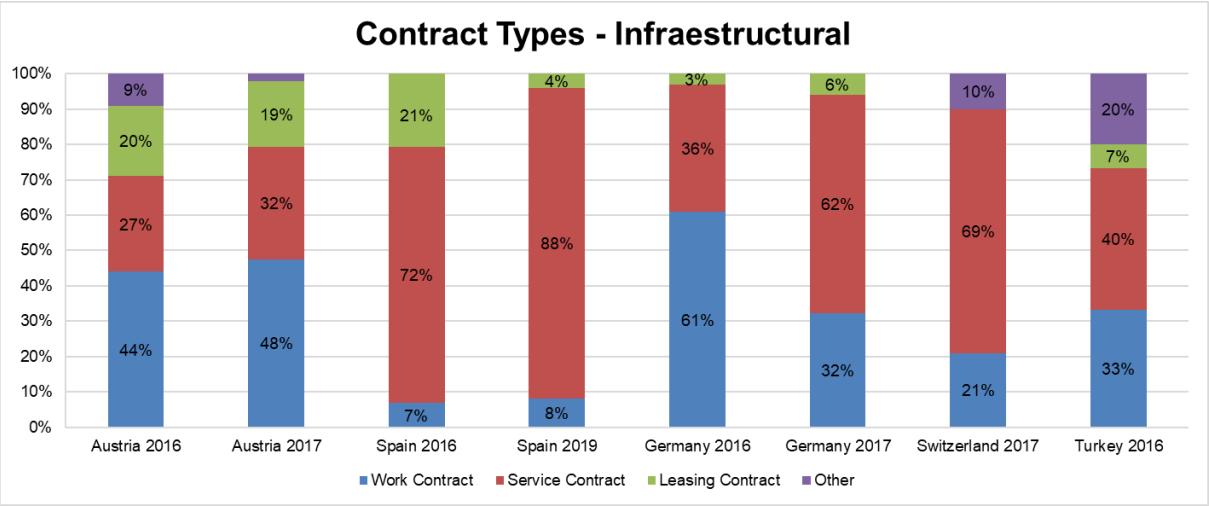

Fig. 83: Most frequent contract types in Europe (Infrastructural)

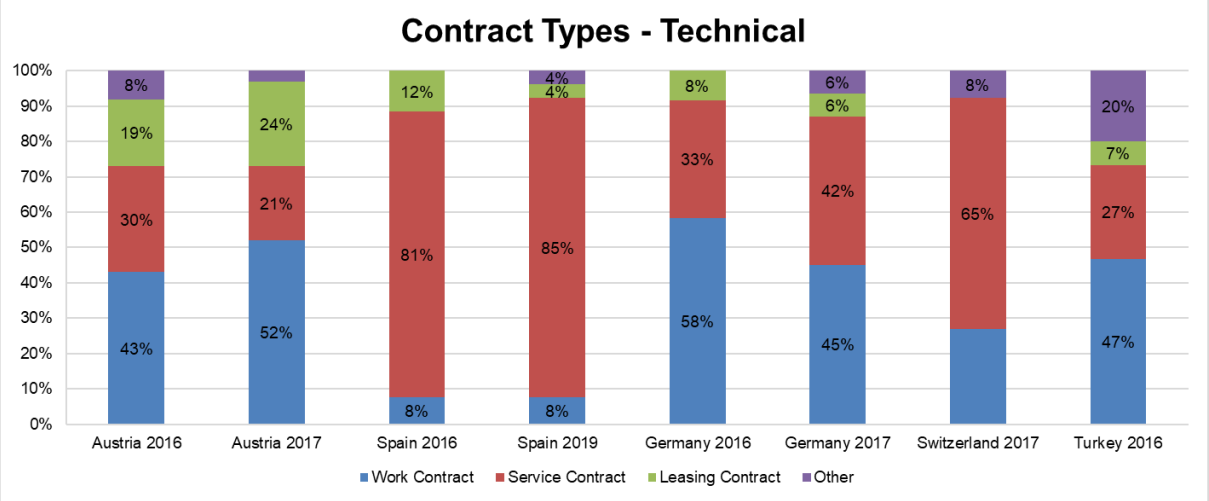

Fig. 84: Most frequent contract types in Europe (Technical)

Regarding the contracts duration (See Fig. 85 and Fig. 86), a tendency in Spain to agree on contracts that are shorter than the average in Europe exists. This is because there are a large number of length contracts of less than one year, which are almost non-existent in the German-speaking countries. The differences are appreciable both in the infrastructural and technical areas and are accentuated in comparison with Germany, where contracts of 4 to 10 years predominate.

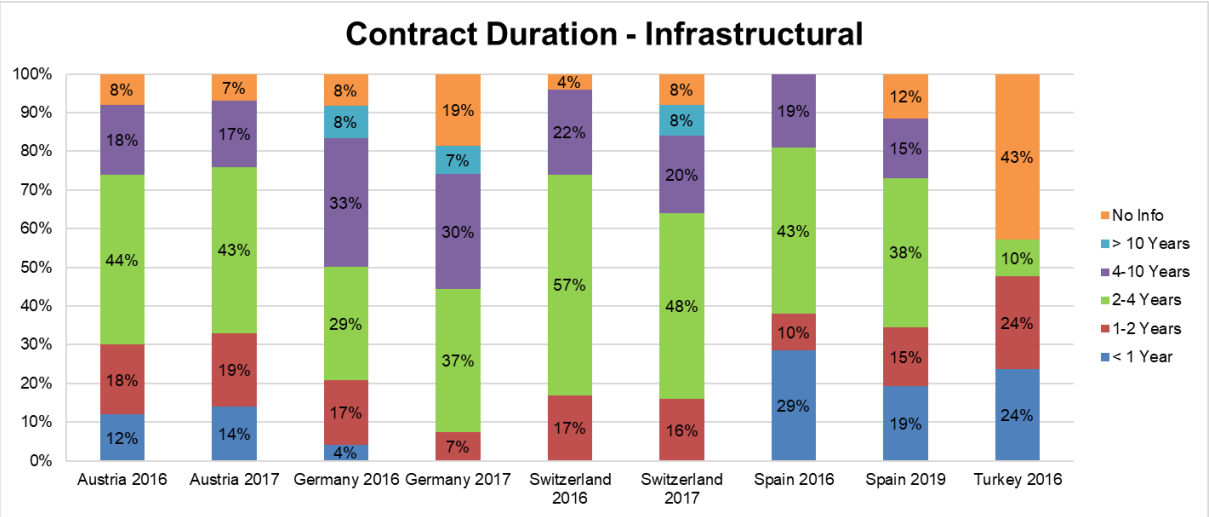

Fig. 85: Contract duration (Infrastructural)

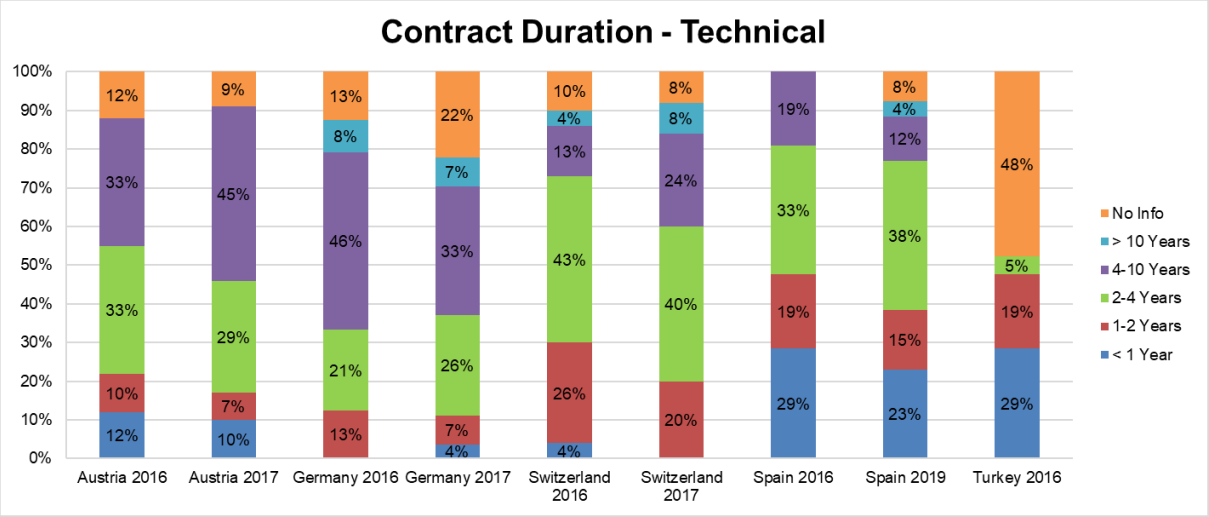

Fig. 86: Contract duration (Technical)

When analysing the most relevant criteria when selecting suppliers, it is difficult to draw clear conclusions regarding comparisons of Spain with the rest of Europe (See Fig. 87). Even so, it seems that the behaviour of the Spanish market is closer to the Turkish one than to the German-speaking. There are differences in criteria such as flexibility and references (most valued in Germany, Austria and Switzerland) or the price (most valued in Spain).

The fact that no criteria in Spain exceed 70% and the great majority is below 50% shows that there is no strong trend within the country, unlike other cases.

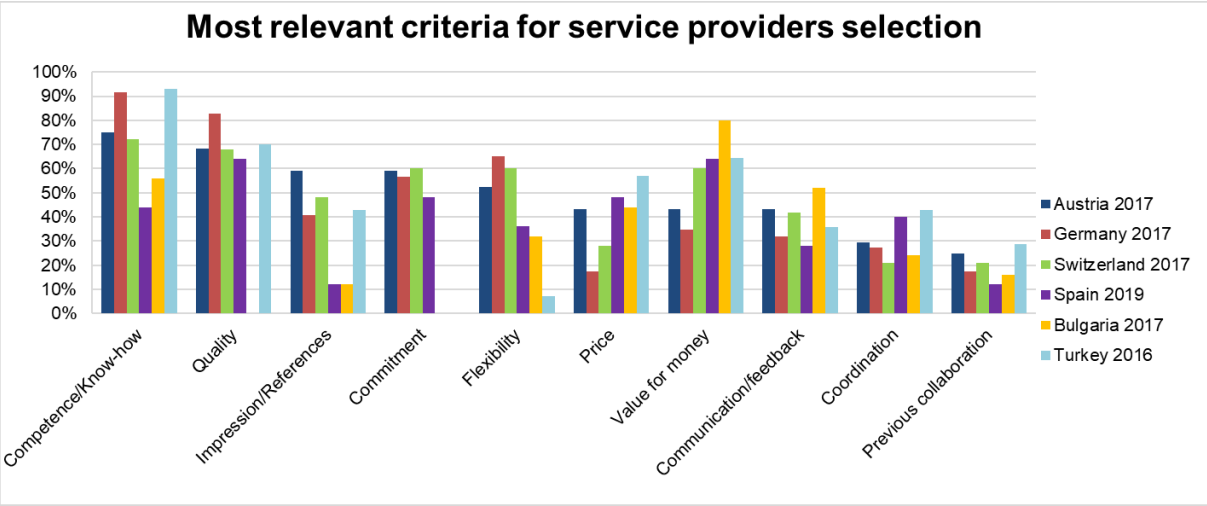

Fig. 87: Most relevant criteria for service providers selection

4.2.3 IT Support

In the next comparisons of the IT Support state in the Spanish FM market with the rest of Europe can be found clear trends that are interesting to study.

The first point to be highlighted is the differing usage of CAFM systems in Spain with respect to Germany and Switzerland (See Fig. 88). Currently, the Spanish usage is only comparable to Austria. Although its use has grown significantly in recent years, it is still far from the popularity that CAFM software obtains in Germany, for example. Clearly, Spain is at an intermediate point between Turkey, a country with a small implementation of the FM methodology, and Germany, the country with a more mature market.

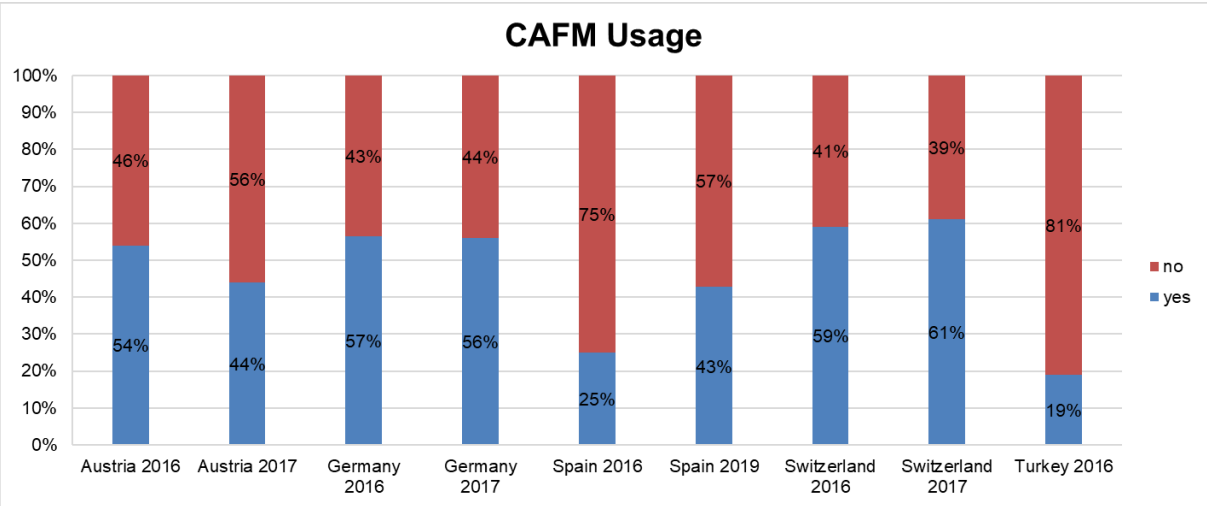

Fig. 88: CAFM usage in Europe

Reviewing the mean covered sections by CAFM of Europe, it is observed that the two main fields in charge of it are *maintenance* and *space management*. (See Fig. 89)

Being a type of software less known globally than, for example, the ERP, the data obtained is smaller and it is difficult to compare more specific behaviours of the countries. This graph was made with the latest data available from Austria, Germany, Switzerland, Spain and Turkey.

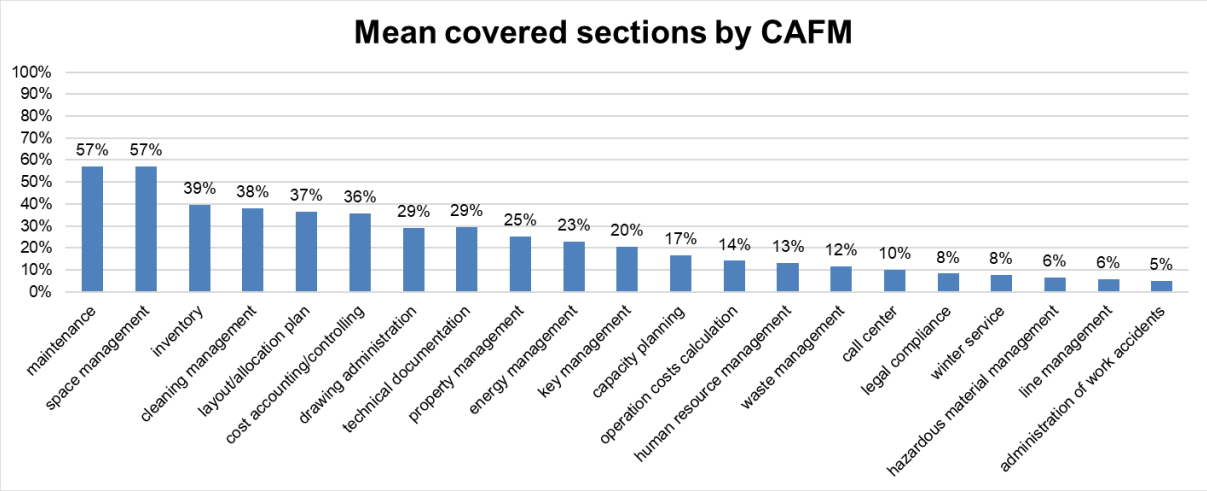

Fig. 89: Most frequent mean covered sections by CAFM (145 surveys)

In contrast, the ERP software usage is much more widespread globally (See Fig. 90). At least 67% of the large companies in the surveyed countries integrate it into their system. An exceptional case is the Swiss one, where, according to the data collected, 100% of large companies use some type of ERP software. Spain remains at the same usage level than Germany.

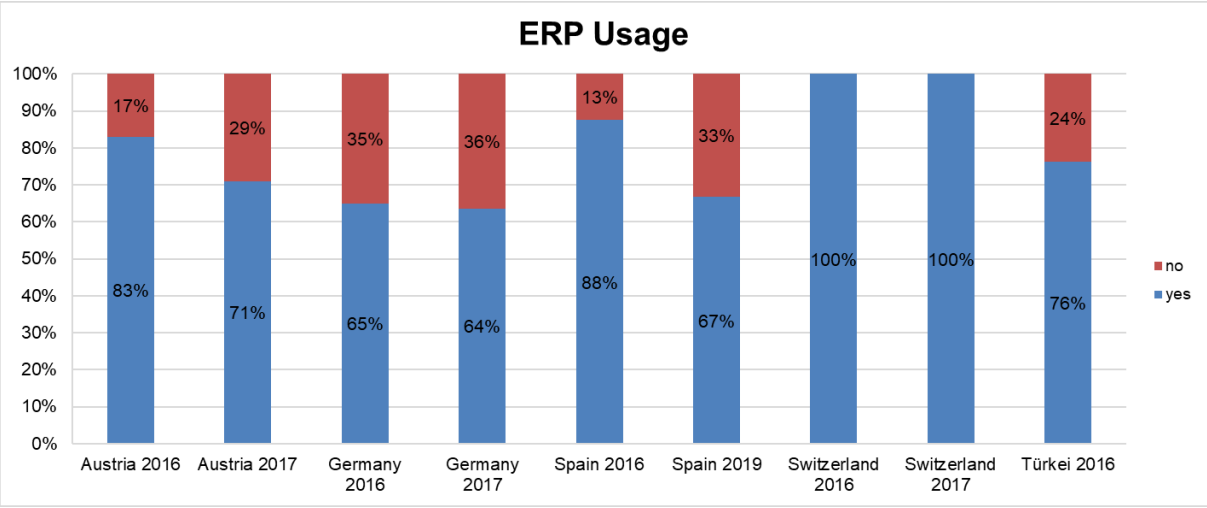

Fig. 90: ERP usage in Europe

Regarding the most used software data (See Fig. 91), there is a clear predominance in the European market of SAP R/3 system, prepared for large companies such as those surveyed. More than half of the companies surveyed use this system. No other stand out above the others.

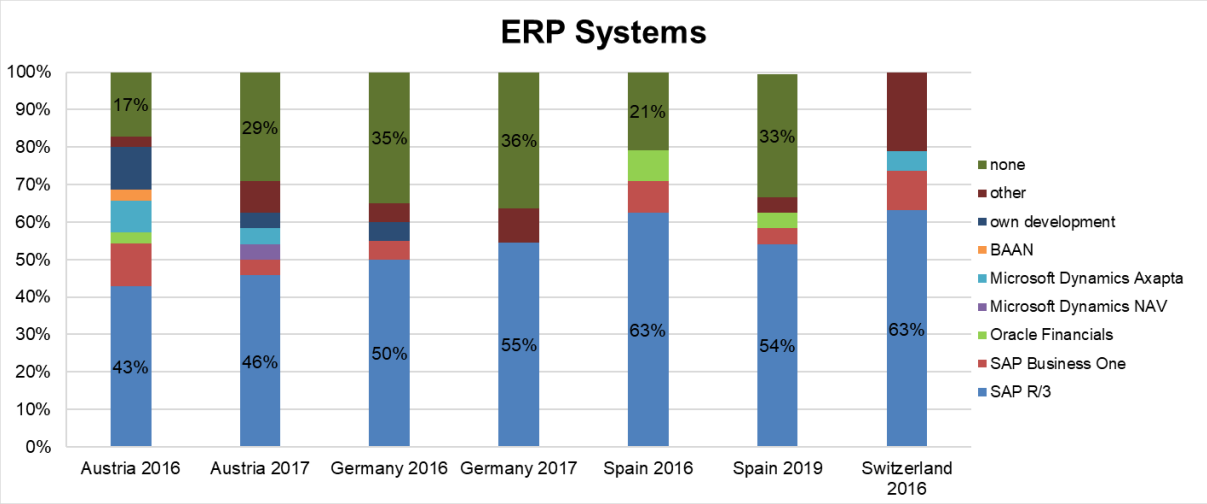

Fig. 91: Most frequent ERP software used in Europe

Europe follows the patterns previously seen in Spain in terms of covered sections by ERP: the main usage is for financial tasks such as *financial accounting* or *cost accounting* (See Fig. 92). Compared with the rest of Europe, Spain stands out in usages such as *human resource* and *sales*.

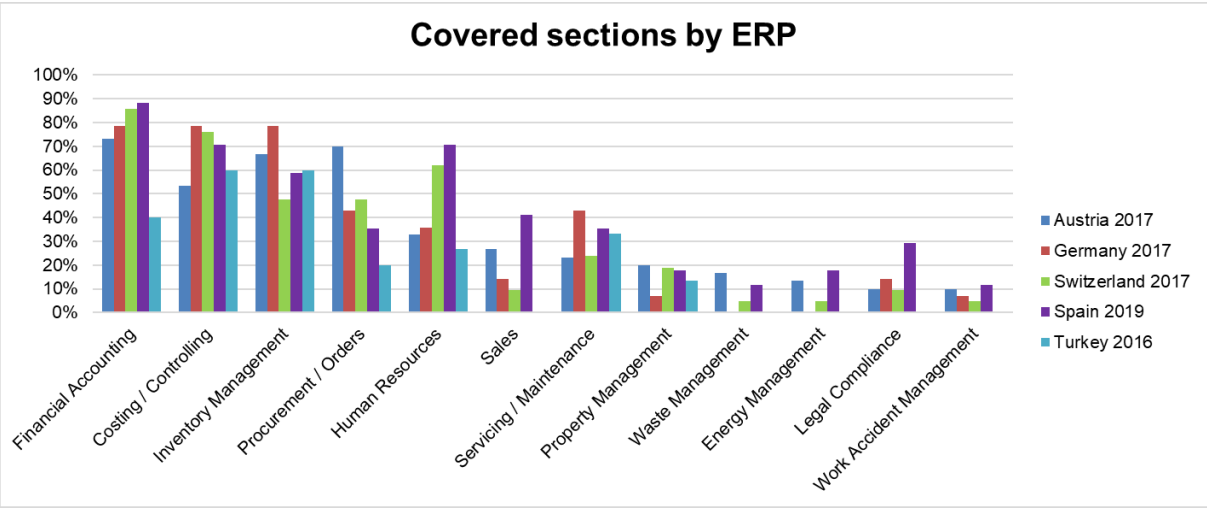

Fig. 92: Most frequent covered sections by ERP in Europe

4.2.4 New Ways of Working

Because this one is a new part of the questionnaire, only two countries (Germany and Spain) have data in this section. Even so, some conclusions can be drawn.

The next graph (See Fig. 93) shows the most used modern working concepts related with the FM in Spain and Germany. Home office, project rooms and lounges are the most common concepts in average in both countries. The largest divergences among them are in shared desks. In Spain, as it was shown above, 46% of the surveyed companies use this concept partially in their installations, while in Germany, only in the 8%.

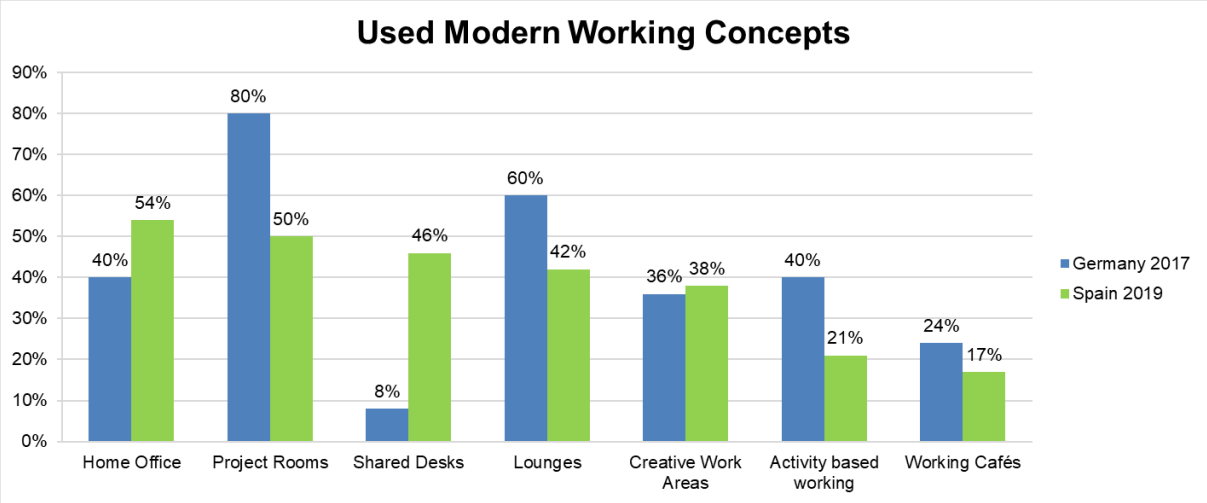

Fig. 93: Most used modern working concepts in Europe

On average, Germany applies more studied concepts than Spain, demonstrating again that it is, together with the UK, one of the pioneer countries in the FM sector.

5 Conclusions

After having analysed the questionnaire outcomes and, supported by the literature review and the TU Wien database, the next step is to extract the most relevant conclusions from the study. Thus, during this chapter, the most significant results and discussions that have been worked on the study are summarized all focused on fulfilling the objectives initially stated.

As has been studied previously, the FM market is a regular basis growing sector around the world, specially in developed countries. In the case of Spain, it can be confirmed that it is a reality. Increasingly, large companies in the country have an FM department with a larger number of employees in it year after year. That is a clear demonstration that the sector grows in Spain. In the European framework, the state of the Spanish FM sector in these characteristics can be compared to those like Austria or Switzerland. These countries are currently a step behind from Germany, one of the studied countries with the most mature FM market in Europe.

Regarding the maturity of the Spanish FM Market, it can be claimed that it is not at the same level as the pioneer countries in Europe (UK and Germany). [12] The objectives and strategies that are marked are not completely clear and concise in comparison to Germany, for instance. Even so, there is a significant tendency to move away from purely economic objectives to focus on creating added value for the company.

Another study focus has been to deepen and analyse cost drivers and savings by FM. In relation to cost drivers, in Spain, there are four sources of expenditure: energy, maintenance, cleaning and staff. These outcomes differ from the data of the most developed countries in Europe and are more similar to the behaviour of the Turkish market. Germany has much more normalized spending outlets in the studied period (no one stands out specially).

In the field of savings achieved, Spain is within the European trend where savings in energy management are predominant. When studying the evolution over time of cost savings in the country, a tendency to increase the savings of energy management exists on a yearly basis. Nevertheless, on the contrary, there are cost savings in staff and cleaning, which decrease drastically in 2019 in Spanish FM Market. The applied measures in Spain to obtain these savings, have been such as renegotiating contracts with suppliers or reorganizing the company's workforce.

Thus, a clear idea taken from costs and saving is the relevance of the energy management sector, where in Spain it is still a field in a constant growth and a potentially critical factor when assessing the FM department's functions. [5] It is a volatile field that can generate large losses or savings. Companies must monitor it carefully.

Productivity optimization in Spain has been reviewed much more deeply in this study than in the past ones. According to this, production is usually improved with measures such as outsourcing or process optimization. Studying the fields where productivity gains are most frequently obtained, the energy management sector stands out again, although the one that has shown the most improving performance is maintenance.

About the real estate contracts types, Spain is the only surveyed country in which the renting and leasing of office buildings exceeds the property contracts. The rest of Europe, regardless of the level of maturity or development, has an opposite tendency to this, and that makes Spain a unique market. How this fact affects the sector can be a remarkable aspect to deepen in later studies.

In the outsourcing section, the study shows that, in Spain, companies with small FM departments (1-3 employees) tend to have a higher subcontracting level than in the case of large departments. The premise is repeated in Germany. This shows the existence of small-sized FM departments only responsible for outsourcing most of the services they provide.

Another observable conclusion is the direct relationship between the outsourcing level and the total number of suppliers in the countries studied. The countries with the highest subcontracting level (Spain and Germany) are those that manage more providers.

When studying which activities are commonly outsourced in Spanish companies, it is trivial to observe that traditional services such as cleaning, maintenance, postal service or security stand out. More than 80% of the companies outsource these activities. However, other activities such as logistics or energy management are the least frequently outsourced. Outsourcing these services to specialized companies (currently the market is less mature than in the case of cleaning or maintenance, e.g.) could be an opportunity to achieve cost savings and productivity improvement.

Regarding the contract types agreed with suppliers, the study is distorted by the divergence in some concept meanings among Spain and the rest of Europe. Even so, it can be clearly claimed Spanish companies must bet more strongly on longer outsourcing contract duration; a trend that proved to be favourable to strategic efforts (creating synergies and implication with providers) and which is already being applied by the German-speaking countries. [20]

Another part of the studied market has been the CAFM and ERP systems. While the CAFM software is not yet a widely used or well-known tool in Spain, it is the software ERP (especially SAP products). In 2019, nevertheless, the use of ERP and user satisfaction with respect to previous years has declined. The most common uses of ERP are usually financial and related to production (inventory management, etc.).

When studying the new ways of working (NWW) introduced in the Spanish market it is worth mentioning another possible concept divergence regarding Europe in the case of open office spaces (just avoid the cubicles or applying more concepts as open meeting rooms, e.g.). Apart from that, the rest of the presented techniques are used with a certain frequency in the different companies and the 68% of cases do not generate an extra expense of resources proving their correct and useful implementation. None stands out above the others.

Thus, after completing the study, it can be concluded that the Spanish FM Market is in a maturation process with a tendency to approach the European pioneer markets. The idea of the Facility Manager figure is rooted among large companies and the tendency to align with the habits recommended by the specialists exists. However, when compared with the leading countries it is found that there is still some disorganization, lack of clear objectives, little daring actions and old habits to eliminate.

The way performed is the right one and the companies' confidence in this sector exists. Now, the figure of the facility manager needs to improve, learn and empower the figure of the facility manager to become a benchmark in the sector.

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7 List of Figures

8 List of Abbreviations

FM	Facility Management
FTE	Full-Time Equivalent
CAFM	Computer Aided Facility Management
ERP	Enterprise Resource Planning
etc.	et cetera
NWW	New Ways of Working
ISO	International Organization for Standardization
e.g.	for example
IT	Information Techonlogy
IFMA	International Facility Management Association
IFM	Integrated Facility Management
KPI	Key Performance Indicator
BIM	Building Information Modeling
SLA	Service Level Agreement
CSR	Corporate Social Responsibility
GFA	Gross Floor Area
REFM	Real Estate and Facility Management
BFSI	Banking, Financial Services and Insurance
SPA	Service Providers and Advisors
GBS	Global Business Services